

SEEMLA

Sustainable exploitation of biomass for bioenergy from marginal lands in Europe

SEEMLA Project Grant Agreement no. 691874

Report

Catalogue of proposed policies on regional and EU level

31 March, 2017

I. About the SEEMLA project

The aim of the Horizon 2020-funded “Sustainable exploitation of biomass for bioenergy from marginal lands in Europe” (SEEMLA) project is the reliable and sustainable exploitation of biomass from marginal lands (MagL), which are used neither for food nor feed production and are not posing an environmental threat. The project will focus on three main objectives: (i) the promotion of re-conversion of MagLs for the production of bioenergy through the direct involvement of farmers and foresters, (ii) the strengthening of local small scale supply chains, and (iii) the promotion of plantations of bioenergy plants on MagLs. The expected impacts are: Increasing the production of bioenergy, famers’ incomes, investments in new technologies and the design of new policy measures. FNR coordinates the project with its seven partners from Ukraine, Greece, Italy and Germany.

Project coordinator

Agency for Renewable Resources Fachagentur Nachwachsende Rohstoffe e.V.	FNR	Germany
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Project partners

Salix Energy Ltd.	SALIX	Ukraine
Institute for Bioenergy Crops & Sugar Beet of the National Academy of Agricultural Science	IBC&SB	Ukraine
Legambiente	LEGABT	Italy
Democritus University of Thrace	DUTH	Greece
Decentralized Administration of Macedonia and Thrace	DAMT	Greece
Brandenburg Technical University Cottbus-Senftenberg	BTU CS	Germany
Institut für Energie- und Umweltforschung Heidelberg GmbH	IFEU	Germany

II. About this document

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Editor	Wibke Baumgarten (FNR)
Author(s)	First author: Wibke Baumgarten (FNR; all sections); Co-author(s): Eugenia Lampetsou DAMT (Section 3) Oleksandr Hanzhenko IBC&SB ; Maksym Zibtsev Salix (Section 4)
Quality reviewer	Birger Kerckow

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III. Background

This deliverable “D3.3 Catalogue of proposed policies on regional and EU level” is based on the task as described in the Grant Agreement Annex I of the Horizon 2020 project SEEMLA (GA no. 691874).

- Task T3.2 Translation of policy mapping outcomes into proposals for EU and regional policy legislation (Lead: FNR)

The aim of this task is to translate the policy maps developed in task 3.1 for the use of MagLs into outputs for other regions not yet using MagLs. Within this task the different policies which have been identified will be analysed according to their impact on the use of MagLs for biomass production as well as their interference with other uses. Furthermore they will need to be assessed regarding their impact in terms of abatement of sustainability risks in cooperation with WP4. The exact assessment will be coordinated by the work package leader and supported mainly by the regional partners.

The remaining partners will add input as far as it involves their field of expertise and they can provide an assessment of the policies identified in task 3.2. Possibly national/regional stakeholders can be involved to provide comments on the proposals for legislation. This can be done by interviews within the expert groups (WP7 –“themed webinars”) or within regional workshops which are taking place in WP 7. Feedback from stakeholders is essential, as only they can give a realistic assessment of which policies have an impact in practice and which have not.

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1 Introduction

Whereas in D3.1 an overview to the policy landscape in the EU regarding biomass production and bioenergy was given, and in D3.2 legislation had been more specified for SEEMLA partner countries with pilot cases, i.e. Germany, Greece and Ukraine, relevant policies for the SEEMLA approach will be summarized in form of a catalogue in D3.3.

In principle, policies are briefly described and listed in a table at the beginning of each section referring to each partner country and the EU. Short descriptions are given in accordance to the order presented in the tables. Moreover, policies are sorted considering **policy level**, i.e. national or EU, **applicable value chain components**, i.e. 'biomass supply', 'logistics', 'conversion', 'distribution', and 'end use', represented by icons, as well as with regard to relevant renewable energy sources sectors or **value chains**, i.e. 'forestry', 'agriculture', and 'biowaste', the expected **impact**, i.e. low, medium, or high on the SEEMLA approach, and **instruments**, i.e. regulations, tax incentives/exemptions, and financial. Hence, e.g. stakeholders will be able to use the table as overview and easily find a description to the corresponding policy which is of relevance for each level of biomass production of bioenergy crops in marginal lands (MagL), starting from seeding, growing, over converting and marketing to the final use as e.g. renewable energy source for heating in form of pellets.

Legend

Policy Level	DE EL UA	National level: Germany, Greece, or Ukraine as described in the partner country specific sections: 2. Germany, 3. Greece and 4. Ukraine; national/regional legislation relevant for SEEMLA approach is considered
		European level; considering EU legislation in national policies of SEEMLA partner countries, of SEEMLA partner countries, relevant for SEEMLA approach
Value chain components		Biomass Supply , considering a sustainable biomass production of bioenergy crops in MagL, according to the SEEMLA approach e.g. willow, poplar, paulownia, black locust, pine, or miscanthus; mainly referring to e.g. obligatory standards and mandated quotas
		Logistics , i.e. harvesting biomass, transport of harvested biomass to conversion plants/logistics centres; mainly referring to e.g. obligatory standards and mandated quotas
		Conversion of biomass [from MagL] into e.g. solid fuel, i.e. pellets, wood chips; mainly referring to e.g. obligatory standards and mandated quotas, grants and feed-in tariffs
		Distribution of biomass [from MagL]; mainly referring to e.g. obligatory standards and mandated quotas, grants and feed-in tariffs
		End Use , i.e. development of marketing strategies; mainly referring to e.g. financial supporting systems, e.g. tax exemptions, incentives, grants, loans, promotions
Value chains		Forestry , main goals: nature protection, sustainability, maintaining/increasing biodiversity; generally based on the European Common Agricultural Policy (CAP) and the Renewable Energy Directive (RED)/"Clean Energy" Proposal
		Agriculture , main goals: nature protection, sustainability, maintaining/increasing biodiversity; including also Agro-Forestry, short rotation coppice (SRC), generally based on the European Common Agricultural Policy (CAP) and the Renewable Energy Directive (RED)/"Clean Energy" Proposal
		Biowaste , incl. by-products, residues, waste from forestry, and agriculture, or with regard to the SEEMLA approach to biomass production in MagLs
Impact		(Expected) relevance for/impact on SEEMLA approach + or  low; ++ or  medium; +++ or  high
Instrument		Regulation , obligatory standard; mandated quota; quality criteria for incentives; awareness raising
		Tax incentives , tax exemptions
		Financing , grants; funds; loans or loan guarantees; preferential market access; feed-in tariffs

2 Germany

Table 1 Overview to German regional/national policies relevant for the SEEMLA approach

Policy	Policy Acronym	Applicable value chain components					Value chain			Relevance for/impact on SEEMLA approach
		Biomass Supply	Logistics	Conversion	Distribution	End Use	Forestry	Agriculture	Biowaste	
										
Action Nature Conservation and Landscape Management (Federal Nature Conservation Act)	BNatschG	x					x			++
Forest Reproductive Material Act	FoVG	x					x			++
Regulation on requirements for recovery and disposal of waste wood	AltholzV	x	x				x			++
National Forests Act	BWaldG	x	x				x			+++
Joint Task on Agriculture Structures and Coastal Protection	GAK	x	x					x		++
Federal Soil Protection Law and Ordinance	BBodSchG BBodSchV	x	x				x	x		+++
Common Agricultural Policy Implementation	CAP	x	x				x	x		+++
Fertilization Ordinance	DüV	x	x				x	x		++
Sewage Sludge Ordinance	AbfKlärV	x	x						x	++
Closed Cycle and Waste Management Act	KrWG	x	x						x	++
Regulation on the use of organic waste on agricultural, forestry and horticulturally used soils	BioAbfV	x	x				x	x	x	++
Forest climate fund	WKF	x	x	x	x		x			++
Emission Control Act	BImSchG	x	x	x	x		x	x	x	++
Biomass Sustainability Regulation	BioSt-NachV	x	x	x	x		x	x	x	++
Integrated Energy and Climate Programme	IECP	x	x	x	x		x	x	x	++
International Climate Initiative	IKI	x	x	x	x		x	x	x	++
Ordinance on the Generation of Electricity from Biomass	BiomasseV			x	x		x	x	x	+++
Renewable Energy Sources Act	EEG			x	x		x	x	x	+++
Act on Granting Priority to Renewable Energy Sources										
Market Premium	EEG §33g (2012) EEG §20 (2017)			x	x		x	x	x	+++
Flexibility premium	EEG §33i (2012) EEG §50g (2017)			x	x		x	x	x	+++
Energy and climate fund	EKF			x	x		x	x	x	++
KW Renewable Energy Programme Premium	KfW			x	x		x	x	x	++
National Renewable Energy Action Plan	NREAP			x	x	x	x	x	x	+++
Gas Network Access Regulation	GasNZV				x	x	x	x	x	+
Market Incentive Programme	MAP					x	x	x	x	+++
BAFA renewable heat investment support	BAFA					x	x	x	x	+++
36 th Ordinance for the implementation of the Immission Control Act: Implementation of the provisions of the biofuel quota	BImSchV					x	x	x	x	++
Biofuel Sustainability Regulation	Biokraft-NachV					x	x	x	x	++
Biofuel Quota Act	BiokraftQuG					x	x	x	x	+
Renewable Energies Heat Act - Act to Promote Renewable Energy for Heating Purposes	EEWärmeG					x	x	x	x	+++
Energy Tax Act	EnergieStG					x	x	x	x	++

2.1 Act on Nature Conservation and Landscape Management - Federal Nature Conservation Act (BNatSchG)^{1,2}

Since 2009

Obligatory Standards



In § 13 ff. of the BNatSchG general principles of the act is given, focussing on the cause responsibilities, inadmissibilities of interventions and authorization for decrees of legal regulations. Moreover, the protection of specific areas of nature and landscape is regulated in § 20 ff., i.e. biotopes, nature protection areas, national parks, biosphere reservations, etc.; analogue to this, also the protection of plants and animals is clearly defined in this act (§ 37 ff.). The Natura 2000 network is regulated in § 31 ff. and refers directly to directives 92/43/EEC (flora, fauna, habitat protection, FFH) and 2009/147/EC (birds protection, former 79/409/EEG).

Within the SEEMPLA approach the BNatSchG will be of relevance for nature conservation issues themselves but mainly subjected to maintain and increase biodiversity in MagL.

2.2 Forest Reproductive Material Act (FoVG)³

Since 2002

Obligatory Standards



The law regulates the production, marketing, import and export of forest reproductive material. The law deals with the following types of forest reproductive material: seeds, parts of plants and seedlings; in line with European Plant Health Directive 2000/29/EC.

Within the SEEMPLA approach the FoVG will be of relevance for the use of reproductive material of the foreseen bioenergy crops, including trees, incl. willow, poplar etc.

2.3 Regulation on requirements for recovery and disposal of waste wood (AltholzV)⁴

Since 2002

Obligatory Standards



The Ordinance lays down criteria for used wood intended for the manufacture of wood-based panels. In addition to the limit values for potential pollutants a visual control for the quality of the material is foreseen.

Within the SEEMPLA approach the AltholzV will deliver standards for woody biomass produced in MagL.

¹ http://www.gesetze-im-internet.de/bnatschg_2009/ (last access: 21 February, 2017)

² <https://www.buzer.de/gesetz/8972/l.htm> (last access: 24 February, 2017)

³ <http://www.gesetze-im-internet.de/fovg/> (last access: 21 February, 2017)

⁴ <http://www.gesetze-im-internet.de/altholzv/> (last access: 21 February, 2017)

2.4 National Forests Act (BWaldG)⁵

Since 1975

Oblitory Standards; Grants



The National Forest Act (BWaldG) was adopted to improve the economic benefits (utility function) of the forest and to emphasise its importance for the environment, in particular for the continuous capacity of the ecosystem, climate, water resources, air pollution, soil fertility, the landscape, agriculture and infrastructure, and recreation. It promotes a balance between the interests of the general population and the forest owners. Connected to State Forest Acts, e.g. in Bavaria (Bavarian Forest Act, BayWaldG).

Within the SEEMLA approach the BWaldG will integrate forest protection and the ecosystem, and may be also transferred to forest areas that are defined as MagL.

2.5 Joint Task on Agriculture Structures and Coastal Protection (GAK)⁶

Since 1969; amended in 2016

Obligatory Standards; Grants



In Germany, the Joint Task for the Improvement of Agricultural Structures and Coastal Protection (GAK) is an essential element of the national strategy for the development of rural areas. It is the most important national support instrument aimed at making the agricultural and forestry sectors efficient, competitive and oriented towards future challenges, while safeguarding the vitality of rural areas and improving coastal protection. It contains a wide range of agricultural structures and infrastructure measures, thus covering large parts of the scope of the European Agricultural Fund for Rural Development (EAFRD) Regulation.

Details regarding the principles, aims and procedural questions are regulated in the Act on a Joint Task for the Improvement of Agricultural Structures and Coastal Protection (GAK Act).

In order to realize the Joint Task, the federal government and federal states provide a joint GAK framework plan in which the measures including the associated aims are listed. Furthermore, funding principles, eligibility conditions and the type and amount of aid payments are described.

The framework plan is decided by the Programme Committee for Agricultural Structures and Coastal Protection (PLANAK), uniting farm ministers at federal and federal state level as well as the Federal Minister of Finance. In mid-2016 the PLANAK adopted the 2016 support measures under the Joint Task for the GAK that is applicable for the period from 2016 to 2019. The support measures are implemented by development programmes of the federal states, complemented by their own support measures. The requirements of land use planning, regional planning at state level and environmental protection and animal welfare must be taken into account when implementing the measure.

Within the SEEMLA approach the GAK will be of relevance for rural development with regard to the use of MagL on federal and federal state level.

⁵ <http://www.gesetze-im-internet.de/bwaldg/> (last access: 21 February, 2017)

⁶ http://www.bmel.de/DE/Landwirtschaft/Foerderung-Agrarsozialpolitik/GAK/gak_node.html (last access: 21 February, 2017)

2.6 Federal Soil Protection Law and Ordinance (BBodSchG and BBodSchV)^{7,8}

BBodSchG since 1998; BBodSchV since 1999

Obligatory Standards



Soil is regulated by the Federal Soil Protection Act (BBodSchG), which entered into force in 1999. The Act and the corresponding ordinance, the Federal Soil Protection and Contaminated Sites Ordinance (BBodSchV), cover both preventive soil protection and post-contamination soil protection and, hence, also the treatment of contaminated sites.

For contaminated sites, but also in the case of other substance inputs to soil, transfer to groundwater is often the most prominent effects pathway and in most cases it is also the relevant starting point for remediation. Therefore, the water-soil legislation interface is particularly important for the clean-up of such sites.

Whilst German soil protection legislation regulates the question whether clean-up must be performed in such cases, water legislation is responsible for mandating how this must be done and what qualitative requirements must be met. In Germany, there is the principle of full groundwater protection as well as a general requirement that groundwater quality must not deteriorate. Referring also to Cross Compliance and the implementation of the CAP (*cf.* 2.7)

Within the SEEMLA approach both the BBodSchG and BBodSchV will be of great relevance considering mitigation of any further soil degradation of MagL.

2.7 Common Agricultural Policy Implementation (CAP)⁹

Since 1992 CAP reform

Regulation; Grants



In line with EU Common Agricultural Policy; provides a framework for financial support to farmers (Pillar 1 - Direct Payments), and national rural development programmes (Pillar 2 - Rural Development). In pillar 1 of the CAP, agricultural support is provided by means of direct payments, through the European Agricultural Guarantee and Guidance Fund (EAGGF) that was set up in the same year. Farmers have to respect the Cross Compliance (CC) rules including food safety standards, environmental protection, animal welfare and the maintenance of land in good environmental and agricultural condition. The rural development was introduced as pillar 2 of the CAP, to improve the competitiveness of farming and forestry, to protect the environment and the countryside, to diversify the rural economy and to support rural development and is co-financed from the European Agricultural Fund of Rural Development (EAFRD). The following priorities were formulated for rural development and the agriculture, forestry and rural areas:

- fostering knowledge transfer and innovation,
- enhancing competitiveness
- promoting food chain organisation
- restoring, preserving and enhancing ecosystems
- promoting social inclusion and economic development.

⁷ <https://www.gesetze-im-internet.de/bbodschg/> (last access: 21 February, 2017)

⁸ <http://www.gesetze-im-internet.de/bbodschv/> (last access: 21 February, 2017)

⁹ http://ec.europa.eu/agriculture/cap-overview_en (last access: 21 February, 2017)

The new CAP reform of 2013 seeks to strengthen the competitiveness of the agricultural sector, promote innovation, combat climate change and support the development of rural areas. Significant importance is given to fostering green growth through innovation, in the context of the emerging bioeconomy.

Within the SEEMLA approach the implementation of the European CAP will be of great relevance especially for rural development but also considering “greening” of MagL.

2.8 Fertilization Ordinance (DüV)¹⁰

Since 1996

Criteria for incentive



Regulation on the application of fertilizers, soil amendments, designed composite soils and plant additives according to the principles of good agricultural practice in fertilizer, in line with European Nitrates Directive.

Within the SEEMLA approach the DüV will regulate and set thresholds with regard to fertilizer e.g. Nitrate emissions.

2.9 Sewage Sludge Ordinance (AbfKlärV)¹¹

Since 1992

Obligatory Standards



The Ordinance rules the application of sewage sludge on agriculturally or horticulturally used soils.

Within the SEEMLA approach the AbfKlärV will regulate the use and application of sewage sludge on MagL sites.

2.10 Closed Cycle and Waste Management Act (KrWG)¹²

Since 2012

Obl. Standards; Grants



This law regulates the disposal of wastes. It describes the waste hierarchy and the separate collection of waste; in line with European Waste Framework Directive 2009/98/EC.

Within the SEEMLA approach the KrWG will be of relevance for the differentiation between waste and by-products as produced from woody or grassy biomass from MagL.

¹⁰ http://www.gesetze-im-internet.de/d_v/ (last access: 21 February, 2017)

¹¹ http://www.gesetze-im-internet.de/abfkl_rv_1992/ (last access: 21 February, 2017)

¹² <https://www.gesetze-im-internet.de/krwg/> (last access: 21 February, 2017)

2.11 Regulation on the use of organic waste on agricultural, forestry and horticulturally used soils (BioAbfV)¹³

Since 1998

Obligatory Standards



The Ordinance includes comprehensive hygienic requirements for biowaste compost and fermentation residues, which must not contribute to the spread of animal and plant pathogens. Strict limit values are also set for heavy metal concentration. The ordinance is highly relevant for the recovery of digestants.

Within the SEEMLA approach the BioAbfV will be of relevance the potential use of biomass in form of organic waste originating from MagL.

2.12 Forest climate fund (WKF)¹⁴

Since 2013

Grants



The policies of the funding guidelines develop the CO₂ reduction, energy and substitution potential of forest and wood and optimize the adaptation of the German forests to climate change. The WKF is funded by the BMEL and the BMUB, and is promoted by the BLE. The main points are: adaptation of forests to climate change, securing CO₂ storage and binding in forests, increasing the CO₂ reduction through forests and wood products, research and monitoring of the funding guidelines and information as well as communication to support the funding goals.

Within the SEEMLA approach the concept of the WKF will be transposed and applied to SEEMLA pilot cases, i.e. aiming at carbon sequestration and mitigation

2.13 Emission Control Act (BImSchG)¹⁵

Since 1974

Obligatory standard



The purpose of the Emission Control Act is to protect humans, animals and plants, soil, water and atmosphere, cultural and other goods from environmental hazards and from any further environmental hazards. The BImSchG links to several Implementation Ordinances that are relevant for biomass use.

Within the SEEMLA approach the BImSchG will be considered in general reg. biomass production originating from MagL and its use.

¹³ <https://www.gesetze-im-internet.de/bioabfv/> (last access: 21 February, 2017)

¹⁴ http://www.bmel.de/EN/Forests-Fisheries/Forests/_Texte/ForestClimateFund.html (last access: 21 February, 2017)

¹⁵ <https://www.gesetze-im-internet.de/bimsg/> (last access: 21 February, 2017)

2.14 Biomass Sustainability Regulation (BioSt-NachV)¹⁶

Since 2009

Regulation; Grants



The Biomass Sustainability Regulation stipulates the sustainability requirements for bioliquids, according to the Renewable Energy Directive. Operators of plants producing electricity from liquid biomass under the EEG or - by cross-reference with the Renewable Energies Heat Act (EEWärmeG) - obligated under EEWärmeG when fulfilling commitment through liquid biomass (*cf.* 2.27).

Within the SEEMLA approach the BioSt-NachV will also regulate sustainability requirements of solid biofuels originating from MagL.

2.15 Integrated Energy and Climate Programme (IECP)¹⁷

Since 2007

Feed-in tariffs



In order to reach the ambitious German climate protection goals the Federal Government has elaborated a comprehensive Integrated Energy and Climate Programme. Its goal is to ensure an ultramodern, secure and climate-friendly energy supply in Germany. It comprises measures for enhanced energy efficiency and expanded use of renewable energy sources.

Within the SEEMLA approach the IECP will have an overarching relevance as SEEMLA is supporting a climate-friendly energy supply.

2.16 International Climate Initiative (IKI)¹⁸

Since 2008

Regulation; Funding



In 2008, the German Environment Ministry launched a comprehensive Climate Initiative, financed with additional funds from the emissions trading scheme. It aims to tap existing potential for reducing emissions in a cost-effective way and to advance innovative model projects for climate protection. Specifically, the BMUB promotes climate protection measures for increased energy efficiency and greater use of renewable energies.

Within the SEEMLA approach also the IKI – besides the IECP – will have an overarching relevance, and may offer an opportunity for promoting bioenergy from biomass grown on MagL.

¹⁶ <http://www.gesetze-im-internet.de/biost-nachv/> (last access: 21 February, 2017)

¹⁷ <https://www.iea.org/policiesandmeasures/pams/germany/name-23939-en.php> (last access: 21 February, 2017)

¹⁸ https://www.international-climate-initiative.com/en/?iki_lang=en&cHash=3fa9cbdf06d5d23e1efb5e0e740f9260 (last access: 21 February, 2017)

2.17 Ordinance on the Generation of Electricity from Biomass (BiomasseV)¹⁹

Since 2001

Regulation; Grants



For the scope of application of the EEG, the Biomass Ordinance regulates which substances are classed as biomass, the substances for which an additional substance-based tariff may be claimed, which energy-related reference values are to be used to calculate this tariff and how the substance-based tariff is to be calculated, which technical procedures for electricity generation from biomass fall within the scope of application of the Act and which environmental requirements must be met in generating electricity from biomass.

Within the SEEMLA approach the BiomasseV is of high relevance for a classification of biomass from MagL and also to define which tariff may be claimed.

2.18 Renewable Energy Sources Act - Act on Granting Priority to Renewable Energy Sources (EEG)²⁰

Since 2000; last amendment in 2017

Regulation; Funding



In line with European Renewable Energy Directive 2009/28/EC. In Germany, the most important means to promote electricity from renewable sources is the feed-in tariff as set out in the EEG. The act aims to increase the proportion of electricity from renewable energy sources in total energy supply from at least 35% in 2020 to at least 80% by 2050 and to integrate these quantities of electricity in the electricity supply system. The amount of tariff for a given plant is the tariff level as defined by law minus the degeneration rate, which depends on the year in which the plant was put into operation.

Within the SEEMLA approach the RES Act will play a central role as the use of biomass from MagL will contribute to 'fill the gap' of the future demand of RES, i.e. RES for heating, which will be supported by the *Market and Flexibility Premiums*.

2.18.1 Market Premium (EEG § 33g, 2012 | EEG § 20, 2017)



Instead of receiving the feed-in tariff for electricity from renewable sources, a plant operator may choose to sell his electricity directly, i.e. to a third party by a supply agreement or at the stock market, and claim the so-called market premium from the grid operator. The amount of the market premium shall be calculated each month. In general, plant operators are free to choose between the feed-in tariff and the market premium for direct selling. Biogas plants with an installed capacity of more than 750kW put into operation after 31 December, 2013 will not be eligible for a feed-in tariff, but they are eligible for a market premium.

¹⁹ <http://www.gesetze-im-internet.de/biomassev/> (last access: 21 February, 2017)

²⁰ <https://www.clearingstelle-eege.de/eege2017> and http://www.gesetze-im-internet.de/eege_2014/ (last access: 21 February, 2017)

2.18.2 Flexibility Premium (EEG § 33i, 2012 | EEG § 50g, 2017)



The operators of biogas plants who sell their electricity directly, i.e. sell them to third parties by supply agreements or at the stock market, may claim a flexibility premium for providing additional installed capacity for on-demand use. For a plant operator to be eligible for the flexibility premium, he shall provide additional installed capacity that may only be used on demand rather than on a regular basis. This premium may be received on top of and separately from the market premium.

2.19 Energy and climate fund (EKF)²¹

Since 2010

Funding



The EKF focuses on financing projects that are related to energy efficiency, renewable energies, energy storage and network technologies, energetic modernisation of buildings, national climate protection, international climate and environmental protection, development of electric mobility.

Within the SEEMLA approach the EKF will be of relevance for promoting and funding projects that will be also related to the use of MagL for biomass production for bioenergy.

2.20 KfW Renewable Energy Programme Premium²²

Since 2013

Market premium



In the framework of the Market Incentive Programme (MAP, cf. 2.28), the Reconstruction Loan Corporation (KfW) provides low-interest loans with grant payback support for the development and expansion of heat installations/plants. Support is given to: Plants for the purification of biogas to natural gas quality and biogas pipelines for non-purified biogas; plants with automatic feeding for the burning of solid biomass for thermal use >100 kW nominal heat output including hot water storage; CHP using solid biomass including buffer storage.

Within the SEEMLA approach the KfW market premium programme will be of specific relevance for biomass plants/boilers which are run with biomass from MagL.

²¹ https://www.bundesregierung.de/Webs/Breg/DE/Themen/Energiewende/EnergieErzeugen/energie_klimafonds/node.html (last access: 21 February, 2017)

²² <https://www.iea.org/policiesandmeasures/pams/germany/name-24664-en.php> (last access: 21 February, 2017)

2.21 German National Renewable Energy Action Plan (NREAP)²³

Since 2010

Regulation; Strategy



On 4 August, 2010 the Federal Government adopted the National Renewable Energy Action Plan (NREAP). Germany plans to reach its national 18 % target domestically and considers transferring the currently estimated excess amount of 1.6 % RES production to other Member States, making thereby use of cooperation mechanisms. According to trajectories in the German NREAP, a share of 19.6 % of renewable energy in final gross energy consumption is expected to be reached, exceeding the binding national target of 18 %. It aims a 15.5 % share for RES in the H&C sector, a share of 38.6 % in the electricity sector and 13.2 % in the transport sector.

Within the SEEMLA approach the German NREAP sets principle strategies in order to meet the goals of the EEG and the European RED as well as the 'Clean Energy' Proposal.²⁴

2.22 Gas Network Access Regulation (GasNZV)²⁵

Since 2010

Funding



In the framework of the Market Incentive Programme (MAP), KfW provides low-interest loans with grant payback support for the development and expansion of heat installations/plants. Therein support is given to CHP using solid biomass including buffer storage Gas Network Access Regulation (GasNZV), respectively, in detail: grid connection cost allocation of 25% for connectee, and 75% for grid operator; ensuring the long term availability of grid connections of at least 96%; the implementation of the Road Map which establishes the timeframes for grid connection.

Within the SEEMLA approach the GasNZV will be of mediocre relevance, as mainly solid biofuels in form of pellet will be in the focus; however, as biomass from MagL may also be used for biogas production a future perspective can be found here.

2.23 BAFA renewable heat investment support²⁶

Since 2012

Funding; Grants



In the framework of the Market Incentive Programme (MAP, **cf. 2.28**) the Federal Office for Economic Affairs and Export Control (BAFA) provides investment support for heat produced in existing buildings. Wood chip firings can be subsidized with € 3500/plant when a buffer of at least 30 l/kW is installed. Combined boilers for wood chips and logs can be supported as well if a buffer volume of at least 55 l/kW is available for the manually loaded part of the plant. Automatically fed systems for wood pellets with automatic ignition can be subsidized with 80 €/kW. The following minimum amounts apply:

²³ <https://ec.europa.eu/energy/en/topics/renewable-energy/national-action-plans> (last access: 21 February, 2017)

²⁴ <http://ec.europa.eu/energy/en/news/commission-proposes-new-rules-consumer-centred-clean-energy-transition>

²⁵ https://www.gesetze-im-internet.de/gasnzv_2010/ (last access: 21 February, 2017)

²⁶ <http://www.res-legal.eu/search-by-country/germany/> (last access: 21 February, 2017)

- Pellet stove (5 to 25 kW) with water pocket: 2,000-3,000 €
- Pellet boiler (5 to 37.5 kW): 3,000-5,250 €
- Pellet boiler (5 to 43.7 kW) with buffer capacity (min. 30 l/kW): 3,500-5,250 €
- Wood chips boiler with buffer capacity (min. 30 l/kW): 2,500 €
- Combination bonus for solar thermal plant, heating pump or heating grid: 500 €

Within the SEEMLA approach the BAFA renewable heat investment support will be of high relevance as this programme is mainly aiming at heating with solid biofuels.

2.24 36th Ordinance for the implementation of the Federal Emission Control Act: Implementation of the provisions of the biofuel quota (BlmSchV)²⁷

Since 2007

Regulation; Quota



The 36th Ordinance of the Emission Control Act determines a minimum share of biofuels in transport sector, requirements for biofuels and employs energetic reference values.

Within the SEEMLA approach the 36th BlmSchV sets the framework for biofuels for transport as one potential future market for biomass as produced in MagL.

2.25 Biofuel Sustainability Regulation (Biokraft-NachV)²⁸

Since 2009

Tax incentives



The Biofuel-Sustainability Regulation aims to stimulate the fulfilment of the Emission Control Act, setting out a minimum share of biofuels in the transport sector. The Regulation stipulates the sustainability requirements for biofuels, according to the Renewable Energy Directive. In line with European Renewable Energy Directive 2009/28/EC, and Fuel Quality Directive 2009/30/EC.

Within the SEEMLA approach the Biokraft-NachV will play a medium role as it is mainly aiming at biofuels in the transport sector; however, relevant sustainability requirements are given in the Biokraft-NachV and thus it can incentivise biomass feedstocks from MagL.

²⁷ <https://www.gesetze-im-internet.de/bimschv/> (last access: 21 February, 2017)

²⁸ <http://www.gesetze-im-internet.de/biokraft-nachv/> (last access: 21 February, 2017)

2.26 Biofuel Quota Act (BiokraftQuG)²⁹

Since 2006

Standards; Quota



Obliges companies importing or producing petrol, gas or diesel fuels to ensure that biofuels make up a defined percentage of the company's total annual sale of fuel. Obligated fuel suppliers may assign this obligation to other companies. A 2009 Act amended the quota set on the minimum blending of biofuels and stipulates a climate protection quota for the reduction of greenhouse gas in the transport sector to be put in place in 2015; in line with European Renewable Energy Directive 2009/28/EC, and Fuel Quality Directive 2009/30/EC.

Within the SEEMLA approach the BiokraftQuG will be of minor relevance, as solid biofuels will be in the focus. Nevertheless, biomass from MagL may also be used for liquid biofuel production; the principle aim of reducing GHG emissions is valid also for SEEMLA.

2.27 Renewable Energies Heat Act - Act to Promote Renewable Energy for Heating Purposes (EEWärmeG)³⁰

Since 2008

Standards; Market access



In line with European Renewable Energy Directive 2009/28/EC; the Renewable Energies Heat Act (EEWärmeG) regulates the obligation to use renewable energy in new buildings. Owners of new buildings must cover part of their heat supply with renewable energies. This applies to residential and non-residential buildings, for which a building application or construction notification was submitted after 1 January, 2009. The law is supplemented by the Market Incentive Programme (MAP, *cf.* 2.28).

Within the SEEMLA approach the EEWärmeG will be of great interested as biomass produced in MagL and converted into e.g. pellets, wood chips etc. will offer a RES of valuable potential for heating.

2.28 Market Incentive Programme (MAP)³¹

Since 1999

Funding



The Market Incentive Programme (MAP) was introduced in 1999, succeeding and replacing the '100 Million Programme'. The Programme primarily serves the expansion of heat generation from biomass, solar power and geothermal energy. Smaller installations of private investors are supported with grants; this part of the programme is administrated by the Federal Office of Economics and Export Control (BAFA).

²⁹ <http://www.gesetze-im-internet.de/biokraftqug/> (last access: 21 February, 2017)

³⁰ http://www.gesetze-im-internet.de/eew_rmeg/ (last access: 21 February, 2017)

³¹ <https://www.iea.org/policiesandmeasures/pams/germany/name-22214-en.php> (last access: 21 February, 2017)

Larger installations are supported with loans, whereas low-interest loans and debt release are the responsibility of the Reconstruction Loan Corporation (KfW). In the residential sector, the focus of the policy is on the promotion of solar thermal collector systems and biomass heaters (pellet systems and wood gasification boilers). Furthermore, plants which utilise solid biomass and geothermal energy are supported, in part with district heating systems.

Within the SEEMLA approach the MAP will be of high relevance in the residential sector, promoting also biomass heating systems, using e.g. biomass from MagL.

2.29 Energy Tax Act (EnergieStG)³²

Since 2006

Funding; Taxation



The Energy Tax Act regulates the amount of taxes on energy consumption on German territory. The Act also includes tax incentives for the production of biofuels. The tax deduction is only granted if the produced amount of biofuel is pure and not used to fulfil the biofuel quota. Some biofuels are exempted from this rule, namely: Synthetic hydrocarbons or synthetic hydrocarbon mixtures which are obtained by thermochemical conversion of biomass; alcohols that have been produced through biotechnological processes to reveal cellulose.

Within the SEEMLA approach the EnergieStG will be of relevance for the taxation of biofuels, e.g. solid biofuels produced from biomass originating from MagL.

³² <http://www.gesetze-im-internet.de/energiestg/> (last access: 21 February, 2017)

3 Greece

Table 2 Overview to Greek regional/national policies relevant for the SEEMLA approach










Policy	Policy No. Acronym	Applicable value chain components					Value chain			Relevance for/impact on SEEMLA approach
		Biomass Supply	Logistics	Conversion	Distribution	End Use	Forestry	Agriculture	Biowaste	
										
Forest Map cf. Art. 24 on the Environment, Land and Urban Planning of the Greek Constitution 1975	Forest Map	x					x			++
Transposition of directive 99/31/EC on the landfill of waste	JMD 29407/3508	x							x	++
Implementation of EU Nitrates Directive	JMD 16190/1335	x	x				x	x		++
Natural ecosystems and biodiversity	Law 3937/2011	x	x				x	x	x	+++
Common Agricultural Policy Implementation	CAP Implementation	x	x	x				x		+++
Transposition into national law of Directive 2008/98/EC - Framework for the production and the treatment of waste	Law 4042/2012	x	x	x					x	++
Forestry Code Decree	Law 86/1969	x	x	x	x		x			+++
Measure 221 "First afforestation of agricultural lands of the PAD 2007-2013", has amended JMD 85871/589/2001 (FEK 173/B/21-02-2001)	JMD 800/2015	x	x	x	x		x			++
Application of the Timber Regulation of the European Commission 995/2010	JMD 134627/5835	x	x	x	x		x			++
Determination of the competent authorities for the implementation of the regulation No.2173/2005	JMD 135279/159	x	x	x	x		x			++
Providing the protection of the forests and forest lands in entire Greece	Law 998/1979	x	x	x	x		x			++
Procedure of preliminary environmental impact assessment, evaluation and approval of environmental conditions	JMD 11014/703	x	x	x	x		x			++
Providing forest management, regulation and way of logging	Presidential Decree 19-11-1928	x	x	x	x		x			++
Concession of the exploitation, the conservation and improvement of publicly owned forests to forest cooperatives	Presidential Decree 126/1986	x	x	x	x		x			++
Code of Good Agricultural Practice	JMD 125347/568	x	x	x	x		(x)	x		+++
Implementation of Cross Compliance	JMD 1791/74062	x	x	x	x		(x)	x		+++

Table 2 continued



















Policy	Policy No. Acronym	Applicable value chain components					Value chain			Relevance for/impact on SEEMLA approach
		Biomass Supply	Logistics	Conversion	Distribution	End Use	Forestry	Agriculture	Biowaste	
										
Farmer payments that have agricultural activity in Natura areas under the measure 213 of the programme Rural development of Greece 2007-2013	JMD 10184 /2013	x	x	x	x			x		+++
Code of Good Agricultural Practice for the Protection of Waters from the pollution caused by nitrates from agricultural sources	JMD 1420/82031	x	x	x	x			x		+++
Implementation of the measure "Afforestation of agricultural land. European Community regulation 1257/99"	JMD 85871	x	x	x	x		x	x		++
In compliance with the provisions of the Directive 2001/81/EE, regarding to national emission ceilings of some atmospheric pollutants	JMD 29459	x	x	x	x	(x)	x	x		+
Project HELIOS: Promotion of the Use of Energy from Renewable Sources and Biofuels Sustainability Criteria (Transposition of Directives 2009/28/EC & Directive 2009/30/EC)	Law 4062/2012	x	x	x	x		x	x	x	+++
Decision for Renewable Energy Sources	JMD 19598/2010	x	x	x	x		x	x	x	++
Procedures of preliminary environmental assessment, evaluation or approval of environmental terms for Renewable Energy Sources	JMD 104247/2006	x	x	x	x		x	x	x	++
Generation of Electricity Using Renewable Energy Sources and High-Efficiency Cogeneration of Electricity and Heat and Miscellaneous Provisions	Law 3468/2006			x	x		x	x	x	+++
Accelerating the development of Renewable Energy to address climate change and other provisions	Law 3851/2010			x	x		x	x	x	+++
Promotion of cogeneration	Law 3734/2009			x	x		x	x	x	+++
New Investment Incentives Law - Aid for Private Investments to Promote Economic Growth, Entrepreneurship and Regional Cohesion	Law 3908/2011			x	x	x	x	x	x	+++
National Renewable Energy Action Plan	NREAP			x	x	x	x	x	x	+++

Table 2 continued

Policy	Policy No. Acronym	Applicable value chain components					Value chain			Relevance for/impact on SEEMLA approach
		Biomass Supply	Logistics	Conversion	Distribution	End Use	Forestry	Agriculture	Biowaste	
										
Providing the measures and authorisation for biofuels	Law N3054/2002				x	x	x	x	x	++
Taxation of energy commodities	Tax Code Law 3336/2005				x	x	x	x	x	++
Income Tax	Law 2238/1994					x	x	x	x	++
Limits for licensed power values and prices for electricity production from biomass production)	Law 4254/2014					x	x	x	x	++
Regulation of issues relating to the operation of fixed furnaces for heating buildings and water	JMD 189533/2011					x	x	x	x	++
Standard environmental commitments for projects of renewable energy sources	JMD 3791/2013					x	x	x	x	++
Codification of the rules for the trafficking and products marketing and Service	JMD A2 - 718/2014					x	x	x	x	++
The first call for proposals for the "Exoikonomo kat'oikon" Programme, (FEK 1180/B/09.06.2011), as amended by JMD F.B1/E2.1/12300/667/09-06-2011)	"Exoikonomo kat'oikon"					x	x	x	x	+++
Solid biomass fuel for non-industrial use	JMD 198/2013					x	x	x	x	+++
Table of forestry products prices for the year 2016	JMD 135369/421					x	x			++

3.1 Forest Map³³

Since 1975; amended in 2001

Awareness raising



The Ministry of Environment, Energy and Climate Change (MEEC) elaborates policy measures in the context of the acceleration and simplification of the national Forest Map project under the national Cadastre Survey. The development of Forest Maps involves the delineation and recording of forest lands that fall under the protective provisions of Greek forest legislation in an accurate, transparent and definitive way. Cf. Art. 24 on the Environment, Land and Urban Planning of the Greek Constitution 1975, amended in 2001.

Within the SEEMLA approach the Forest Map will delineate the forests lands and therefore the potential marginal forest lands.

3.2 Landfill of Waste - JMD 29407/3508³⁴

Since 2002

Obligatory Standards



Transposition of Directive 99/31/EC 'On the landfill of waste' and in line with European Landfill Directive. The Landfill Directive was transposed into national law by the JMD 29407/3508 (FEK 1572 B/16.2.2002) 'Measures and terms for the Landfill of wastes'.

The integrated management of solid waste, which refers to the implementation of the objectives and actions for temporary storage, shipment, transfer, treatment, recovery and disposal of solid waste according to the regional waste management plan lies within the territorial jurisdiction of regional waste management bodies. The Ministry of Interior is responsible for the establishment of the registry, organizing and monitoring.

Within the SEEMLA approach the JMD 29407/3508 will be of relevance for the management of the waste and by-products as produced from woody or grassy biomass from MagL.

³³ <http://www.ktimatologio.gr/sites/en/forestmaps/Pages/blsrv8E2eyiH1U7s.aspx> (last access: 24 February, 2017)

³⁴ http://www.elinyae.gr/el/item_details.jsp?item_id=2911&cat_id=926 (last access: 28 February, 2017)

3.3 Implementation of EU Nitrates Directive - JMD 16190/1335³⁵

Since 1997; amended in 2013

Obligatory Standards



Directive 91/676/EEC was transposed into national legislation with Joint Ministerial Decision (JMD) 16190/1335 (FEK 519B/25-06-1997) in 1997. In 1999, 4 vulnerable zones, with respect to nitrogen pollution from agricultural run-offs, have been identified in Greece, JMD 19652/1906. In 2001, update and amendment of the vulnerable zone took place including 3 more vulnerable zones, JMD 20419/2522. In 2008, the 4 vulnerable zones identified in 1999 were further identified at local administrative unit 2 level (formerly NUTS 5 level), JMD 24838/1400/E103. JMD 106253 of 2010 amended the list of vulnerable zones including areas of GR25 (NUTS 3) region. In 2013, the list of vulnerable zones was further amended, JMD 190126.

Within the SEEMLA approach the JMD 161890/1335 will regulate nitrogen pollution from agricultural run-offs in rural areas and therefore in MagL.

3.4 Natural ecosystems and biodiversity - Law 3937/2011³⁶

Since 2011

Obligatory Standards



Conservation of Biodiversity identifies national priorities, sets out the framework for the National System of Protected Areas and defines the main tools for biodiversity management; in line with European Birds Directive (79/409/EEC) and Habitat Directive (92/43/EEC).

Within the SEEMLA approach the Law 3937/2011 (FEK 60A/31-03-2011) will be of relevance because defines the main tools for biodiversity management and also for MagL. It should be noted that the establishment of vegetation on marginal lands by itself fosters and promotes biodiversity.

3.5 Common Agricultural Policy Implementation³⁷

Since 1992

Regulation; Grants



In line with EU Common Agricultural Policy; provides a framework for financial support to farmers (Pillar 1 - Direct Payments), and national rural development programmes (Pillar 2 - Rural Development). In pillar 1 of the CAP, agricultural support is provided by means of direct payments, through the European Agricultural Guarantee and Guidance Fund (EAGGF) that was set up in the same year. Farmers have to respect the Cross Compliance (CC) rules including food safety standards, environmental protection, animal welfare and the maintenance of land in good environmental and

³⁵ <http://ec.europa.eu/environment/water/water-urbanwaste/pdf/greece.pdf> (last access: 28 February, 2017)

³⁶ https://www.wwf.gr/images/pdfs/WWF_2015LawReview_NatureBiodiversity.pdf (last access: 28 February, 2017)

³⁷ http://ec.europa.eu/agriculture/cap-in-your-country/pdf/el_en.pdf (last access: 28 February, 2017)

agricultural condition. The rural development was introduced as pillar 2 of the CAP, to improve the competitiveness of farming and forestry, to protect the environment and the countryside, to diversify the rural economy and to support rural development and is co-financed from the European Agricultural Fund of Rural Development (EAFRD). The following priorities were formulated for rural development and the agriculture, forestry and rural areas:

- fostering knowledge transfer and innovation,
- enhancing competitiveness
- promoting food chain organisation
- restoring, preserving and enhancing ecosystems
- promoting social inclusion and economic development.

The new CAP reform of 2013 seeks to strengthen the competitiveness of the agricultural sector, promote innovation, combat climate change and support the development of rural areas (EC, 2013a; Scarlat et al., 2015a). Significant importance is given to fostering green growth through innovation, in the context of the emerging bioeconomy. (*cf.* 2.7)

Within the SEEMLA approach the implementation of the European CAP will be of great relevance especially for rural development and in combination with the “greening” of MagL, we can achieve important objectives like to improve the competitiveness of farming and forestry, to protect the environment and the countryside, to diversify the rural economy, etc.

3.6 Framework for the production and the treatment of waste - Law 4042/2012³⁸

Since 2012

Obligatory Standards



Transposition into national law of Directive 2008/98/EC which defines key concepts and sets the essential requirements for the management of waste and the criteria to be met in order for a waste to cease to be waste (End-of-Waste) or to be considered as by-product. Law 4042/2012 (FEK 24A/13-02-2012) aimed at resolving many problems and started a systematization of management actions that should be performed in order to achieve the objectives of the EU waste management.

Within the SEEMLA approach the Law 4042/2012 will be of great relevance by setting the criteria for the management of waste so as to be considered as by-product. These actions are applicable in woody or grassy biomass production in MagL.

³⁸ http://ec.europa.eu/environment/waste/framework/pdf/GR%20factsheet_FINAL.pdf (last access: 28 February, 2017)

3.7 Forestry Code Decree - Law 86/1969^{39,40}

Since 1969

Obligatory Standards



Decree Law 86/1969 (FEK 7/A/18-01-1969) codified almost all the laws that had been issued since 1928 and had been amended and completed by Law 4173/1929. It constitutes the Forest Code of the country and regulates matters concerning the protection, management, real property rights on forest land etc. This code continues until now to constitute the basic body of forestry legislation, although a lot of its provisions were amended and substituted by other laws such as Laws 886/1971, 996/1971, 248/1976 and 998/1979. Law 998/1979 "On the protection of the country's forest and other wooded land" determines the specific protection measures for maintaining, developing and improving forest and other forest land of the country. Law 1650/1986 "On the Protection of the Environment" includes a specific chapter "On the Protection of Nature and Landscape" which proposes new categories of protected areas and introduces changes in the administration and management of protected areas. The law is mainly regarded to, i.e. forestry ownership, assignment of timber forest products, forest management, survey, logging process, transportation of forest products and transfer of profits.

Within the SEEMLA approach the presidential decree 86/1969 will be of great relevance by determining the specific measures for protecting, maintaining, developing, managing and improving forests and other forest lands of the country and their productivity, therefore woody vegetation and wood production in MagL.

3.8 Afforestation of agricultural lands - JMD 800/2015⁴¹

Since 2001; amended in 2015

Obligatory Standards



Measure 221 'First afforestation of agricultural lands' (FEK 128B/21-01-2015) of the Project Appraisal Document 2007-2013, has amended JMD 85871/589/2001 (FEK 173/B/21-02-2001); implementation of the regulation 1257/99 in Greece in which arable lands can be afforested with forestry species such as Acacia, Pinus and Poplar in order to produce timber and solid biomass.

Within the SEEMLA approach the JMD 800/2015 will be of great relevance because it provides the guidelines for the afforestation of agricultural lands, which could be implemented on MagL.

³⁹ Mpoutakidis, D. and K. Soutsas (2013). Greek and European Legal Framework Environmental and Ecological Laws: An Interactive Application. Procedia Techn. 8: 27-36.

⁴⁰ http://www.oikotechnics.org/greek_legislation.html (last access: 28 February, 2017)

⁴¹ http://www.iamb.it/share/img_new_medit_articoli/120_48arabatzis.pdf (last access: 28 February, 2017)

3.9 Timber Regulation - JMD 134627/5835⁴²

Since 2015

Obligatory Standards



JMD 134627/5835 is the application of the Timber Regulation of the European Commission 995/2010. This JMD (FEK 2872B/29-12-2015) is aiming at restriction of illegal logging, combating illegal trading of timber products into European Commission. It is the implementation of 995/2010 Regulation of the European Commission, refers to competent authorities, and is referring to controlling, registration orders, and penalties.

Within the SEEMLA approach the JMD 134627/5835/2015 will be of relevance because provides the guidelines for the legal logging and trading of timber products, including the logging, transporting and trading of timber products from MagL.

3.10 Import of timber - JMD 135279/159⁴³

Since 2016

Obligatory Standards



JMD 135279/159 (FEK 83B/25-01-2016) refers to the establishment of a Forest Law Enforcement, Governance and Trade (FLEGT, since 2003) licensing scheme for imports of timber into the European Community which intends to prevent trading of illegally harvested timber in Europe (cf. Council Regulation EP 2173/2005).

Within the SEEMLA approach JMD 135279/159/2016 will be of relevance by preventing trading of illegally harvested timber and therefore prevents the illegal trade of biomass products produced in MagL.

3.11 Protection of forests and forest lands - Law 998/1979⁴⁴

Since 1979

Obligatory Standards



The law on Protection of forests and forest lands Law 998/1979 (FEK 289A/29-12-1979) is aiming at development and improvement of forests and forest lands, their conservation and improvement of natural environment, at property issues and forest exploitation, and defines terms and conditions of the change of destination use.

Within the SEEMLA approach the Law 998/1979 will be of great relevance by determining the specific measures for protecting, maintaining, developing, managing and improving forests and other forest lands of the country and their productivity, therefore woody vegetation and wood production from MagL.

⁴² https://www.wwf.gr/images/pdfs/WWF_2015LawReview_NatureBiodiversity.pdf (last access: 28 February, 2017)

⁴³ <http://eur-lex.europa.eu/legal-content/FRN/TXT/?uri=celex:32005R2173> (last access: 28 February, 2017)

⁴⁴ http://www.oikotechnics.org/greek_legislation.html#_Toc108250433 (last access: 28 February, 2017)

3.12 Procedure of preliminary environmental impact assessment - JMD 11014/703⁴⁵

Since 2003

Obligatory Standards



Procedure of preliminary environmental impact assessment, evaluation and approval of environmental conditions and intervention approval or assignment of forests or forest lands in order to be issued licence for the installation of renewable energy stations.

In accordance to Article 4 of Law 1650/1986 (A 160) as it was replaced by article 2 of Law 3010/2002 "Harmonization of Law 1650/1986 with the Directives 97/11/EU and 96/01/EU, determination process and regulation of matters regarding water courses and other provisions".

Within the SEEMLA approach the JMD 11014/703 (FEK 552B/08-05-2003) will be of great relevance as far as it concerns the regulations for the installation of RES in forest lands, which could get raw material with lower cost, produced from nearby marginal lands.

3.13 Sustainable management of forests - Presidential Decree 19-11-1928⁴⁶

Since 1928

Obligatory Standards



Presidential Decree 'On forest management, felling regulations, forest taxation and rent' introduced the principle of sustainable yield into the legislation as sustained timber yield. It provides standards referring to studies, procedures, controlling, penalties, obligations, leases and categories of forest products, and the management of logging residues. The sustainable management expended to account for all kinds of functions provided by forests in a circular from 1937. However, the management of Greek forests based on sustained yield started after the Ministry of Agriculture issued Circular No 120094/499/1937. Article 24 of the Constitution prohibits forest land use changes, unless it is enforced by public interest. In addition, the circular of the Ministry of Agriculture 958/1953 describes the content and structure of forest management plans.

Within the SEEMLA approach the Presidential Decree 19-11-1928 (FEK 252A/30-11-1928) will be of great relevance as far as it concerns the procedures and obligations of forest management, production and transportation and especially the management of logging residues in forest areas and in MagL with woody vegetation and production.

⁴⁵ https://repository.ihu.edu.gr/xmlui/bitstream/handle/11544/14487/m.lampridi_ems_25-02-2016.pdf?sequence=1 (last access: 28 February, 2017)

⁴⁶ <https://www.unece.org/fileadmin/DAM/timber/docs/tc-58/efc-reports/greece.htm> (last access: 28 February, 2017)

3.14 Forest exploitation - Presidential Decree 126/1986⁴⁷

Since 1986

Obligatory Standards; Grants



The programme or plan of forest exploitation is manifested in the Presidential Decree 126/1986 (FEK 44A/13-03-1985); it regulates, e.g. the concession of the exploitation to forest cooperatives, defines administrative types of forests, sets the frame of procedures, terms and conditions and regulates forest maintenance and improvement works.

Within the SEEMLA approach the Presidential Decree 126/1986 will be of great relevance concerning the concession of the exploitation to forest cooperatives, sets the frame of procedures, terms and conditions and regulates forest maintenance and improvement works, which will be used also on MagL with woody vegetation and production.

3.15 Code of Good Agricultural Practice - JMD 125347/568⁴⁸

Since 2004

Regulation; Grants



Provides the implementation of good farming techniques, which are required to be complied by the farmers and are called Codes of good agricultural practice (CGAP), as they were approved by the E(2003)3139/22.8.2003 Decision of the European Commission which amends the rural development programming document 2000-2006. The CGAP aims to deal with problems that agricultural activity raises.

Within the SEEMLA approach the JMD 125347/568 (FEK 142B/29-01-2004) will be in relevance considering good farming techniques that improve agricultural activities especially in MagL.

3.16 Implementation of Cross Compliance - JMD 1791/4062⁴⁹

Since 2015

Regulation; Grants



Implementation of Cross Compliance under the application of Regulation (EC) No 1306/2013 of the European Parliament and Council and the Regulations 640/2014 and 809/2014 of the Commission. Farmers' obligations for the Cross Compliance; referring to waters, soil and carbon storage, management of crops residue, biodiversity.

Within the SEEMLA approach the MD 1791/4062 (FEK 1468B/14-07-2015) will be of great relevance because implements management obligations of crops residue and by extension biomass products produced from MagL.

⁴⁷ http://ec.europa.eu/environment/forests/pdf/fmp_table.pdf (last access: 28 February, 2017)

⁴⁸ <http://www.ypeka.gr/LinkClick.aspx?fileticket=152FslqW9AE%3D&tabid=552> (last access: 28 February, 2017)

⁴⁹ https://ec.europa.eu/agriculture/direct-support/cross-compliance_en (last access: 28 February, 2017)

3.17 Farmer payments - JMD 10184 /2013⁵⁰

Since 2013

Grants



Farmer payments that have agricultural activity in Natura 2000 areas under the measure 213 of the Programme Rural Development of Greece 2007-2013; provides the necessary institutional set-up for the efficient management, monitoring and implementation of the Measure 213 'Natura 2000 aids and aids that are related to the Directive 200/60/EC'.

Within the SEEMLA approach the JMD 10184/2013 (FEK 1211B/20-05-2013) will be of great relevance for rural development in Natura 2000 areas in association with the use of MagL under certain conditions and management restrictions.

3.18 Code of Good Agricultural Practice for the Protection of Waters - JMD 1420/82031⁵¹

Since 2015

Regulation



Code of Good Agricultural Practice for the Protection of Waters from the pollution caused by nitrates from agricultural sources (cf. Nitrates Directive 91/676/EEC); provides the proper guidance for the implementation of good agricultural practice to all the involved in agricultural and livestock activities, so as to protect the environment and in the same time to ensure their income. The code particularly targets to prevent the pollution of the surface water and groundwater from nitrate contents.

Within the SEEMLA approach the MD 1420/82031 (FEK 1709/B/17-08-2015) will expand groundwater protection and prevention of the water pollution on MagL.

3.19 Implementation of JMD 800/2015 regarding afforestation - JMD 85871/589

Since 2001

Regulation; Grants



Implementation of the measure 'Afforestation of agricultural land' - European Community regulation 1257/99 in Greece in which arable lands can be afforested with forestry species such as Acacia, Pinus and Poplar in order to produce timber and solid biomass (**cf. 3.8**).

Within the SEEMLA approach the JMD 800/2015 (FEK 173/B/21-02-2001) will be of great relevance considering that measures of afforestation with forestry species on arable lands can also be implemented on MagL, in order to produce biomass.

⁵⁰ <http://www.arc2020.eu/2014/06/greece-national-proposals-for-the-new-cap/> (last access: 28 February, 2017)

⁵¹ <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=URISERV:I28013&from=EN> (last access: 28 February, 2017)

3.20 Emission control - JMD 29459/1510⁵²

Since 2005

Obligatory Standards



In compliance with the provisions of the Directive 2001/81/EE, regarding to national emission ceilings of some atmospheric pollutants causing acidification and eutrophication.

Within the SEEMLA approach the JMD 29459/1510/2005 (FEK 992/B/14-07-2005) will be of relevance because knowing the atmospheric pollutants and their emission ceilings, we could ensure the protection of forest areas and consequently of MagL.

3.21 Promotion of use of Renewable Energy Sources - Law 4062/2012⁵³

Since 2012

Regulation; Promotion



Project HELIOS: Promotion of the Use of Energy from Renewable Sources and Biofuels Sustainability Criteria (Transposition of Directives 2009/28/EC & Directive 2009/30/EC); the law allows for the statistical transfer for RES projects, describes new sustainability criteria for biofuels and adds provisions to Law No. 3468/2006 and Law No. 4001/2011.

Within the SEEMLA approach the Law 4062/2012 (FEK 70A/30-03-2012) will be of great relevance because it promotes biofuels as sustainable energy source that could be combined with biomass production on MagL and its conversion to biofuels.

3.22 Decision for Renewable Energy Sources - JMD 19598/2010

Since 2010

Obligatory Standards; Promotion



Intended installed power ratio and allocation of time for RES technology or Επιδιωκόμενη αναλογία εγκατεστημένης ισχύος και κατανομή της στο χρόνο ανά τεχνολογία ΑΠΕ; desired quota of the installed capacities and distribution in time by technology of renewable energy sources.⁵²

Within the SEEMLA approach the JMD 19598/2010 (FEK 1630/B/11-10-2010) determines the desired quota of the installed capacities and distribution in time by technology of renewable energy sources amongst others that of biomass.

⁵² <http://ec.europa.eu/environment/air/pollutants/ceilings.htm> (last access: 28 February, 2017)

⁵³ http://www.res-legal.eu/no_cache/archive/?cid=274&did=414&sechash=30366696 (last access: 28 February, 2017)

3.23 Procedures of preliminary environmental assessment, evaluation or approval of environmental terms for Renewable Energy Sources - JMD 104247/2006⁵⁴

Since 2006

Obligatory Standards



The Ministerial Decision 104247/2006 (FEK 663/B) regulates procedures of preliminary environmental assessment, the evaluation or approval of environmental terms for Renewable Energy Sources, taking biodiversity, nature protection and other relevant legal frameworks dealing with nature conservation (i.e. Natura 2000) into account.

Within the SEEMLA approach the JMD 104247/2006 (FEK 663/B/26-05-2006) will be of relevance because it deals with the legal framework concerning the approval of environmental terms for RES and therefore biomass production from MagL.

3.24 Greek Renewable Energy Source Act - Law 3468/2006⁵⁵

Since 2006

Regulation; Grants



Generation of Electricity Using Renewable Energy Sources and High-Efficiency Cogeneration of Electricity and Heat and Miscellaneous Provisions; transposition of Directive 2001/77/EC on the promotion of electricity produced from RES in the internal electricity market and the promotion, by grant priority to the generation of electrical power from RES and high-efficiency cogeneration of electricity and heat plants in the internal electricity market, on the basis of rules and principles. In Greece, renewable electricity generation is mainly promoted through a guaranteed feed-in tariff.

Within the SEEMLA approach the Law 3468/2006 (FEK 129A/27-06-2006) will be in great relevance because it gives great priority to generation of electrical power from RES and promotes plants in internal electricity market and this promotion could be combined with biomass production in MagL and conversion of this to electrical power.

3.25 Accelerating the development of Renewable Energy Sources - Law 3851/2010⁵⁶

Since 2010

Regulation; Promotion



Law 3851/2010 (FEK 85A/04-06-2010) on 'Accelerating the development of Renewable Energy to address climate change and other provisions' states that the protection of the climate, through the promotion of electrical energy production from RES, which reduces GHG emissions, constitutes an environmental and energy priority of the highest significance for the country.

⁵⁴ https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/inter_pares_framework_on_the_promotion_of_res_at_nuts_3_level_en.pdf (last access: 28 February, 2017)

⁵⁵ http://www.helapco.gr/ims/file/english/law_3468_2006_eng.pdf (last access: 28 February, 2017)

⁵⁶ <http://www.ypeka.gr/LinkClick.aspx?fileticket=qtiW90JJLYs%3D&tabid=37> (last access: 28 February, 2017)

It further sets specific targets for RES electricity share (40%), RES heating and cooling share (20%), and RES transport share (10%) in order to achieve the national target of 20% contribution of the energy produced from RES to the gross final energy consumption.

Within the SEEMLA approach the Law 3851/2010 will be of relevance promoting electrical energy production from RES and therefore could be combined with “greening” and biomass production on MagL, which will also contribute to reduction GHG emissions.

3.26 Promotion of cogeneration - Law 3734/2009⁵⁷

Since 2009

Regulation; Promotion



Law 3734/2009 (FEK 8/A/28-01-2009) constitutes the main legislative instrument for the transposition in the Greek legislation of Directive 2004/8/EC concerning the promotion of cogeneration and aims to provide a significant stimulus for CHP installations in Greece and to tackle barriers for this type of installations. More specifically, this law specifies in detail the licensing procedure of CHP plants, the related guarantees of origin, as well as a series of other issues that acted as barriers related to the promotion of RES in the Greek energy market.

Within the SEEMLA approach the Law 3734/2009 will be of relevance because specifies in detail the licensing procedure of CHP plants and issues related to the promotion of RES in Greek energy market and therefore could be combined with biomass production plants from MagL.

3.27 New Investment Incentives Law - Law 3908/2011⁵⁸

Since 2011

Investment Incentives



Aid for private investments to promote economic growth, entrepreneurship and regional cohesion; promotion of economic growth in Greece by introducing an investment aid scheme to boost entrepreneurship, technological development, the competitiveness of enterprises and regional cohesion and promote the "green economy", the efficient functioning of existing infrastructures and the deployment of the country's human resources. Renewable Energy Sources projects are eligible for support under the new investment law if certain conditions are met.

Within the SEEMLA approach the Law 3908/2011 (FEK 8A/01-02-2011) will be of great relevance because it gives incentives to people to invest and promote “green economy”, which includes production, management and disposal of biomass products from MagL and the establishment of new CHP plants.

⁵⁷ http://www.res-legal.eu/no_cache/archive/?cid=274&did=607&sechash=250d1631 (last access: 28 February, 2017)

⁵⁸ <http://startupgreece.gov.gr/procedures-laws-regulations/investment-incentives-law-39082011> (last access: 28 February, 2017)

3.28 Greek National Renewable Energy Action Plan - NREAP⁵⁹

Since 2010

Regulation; Strategy



National Renewable Energy Action Plan 2010; the overall target is broken down further into sub-targets of 40% RES in the power generation mix, 20% RES in final energy consumption for heating and cooling, and 10% RES in final energy consumption for transport until 2020. The long term EU targets until 2050 have not been translated into national reduction targets, yet. However, the visualisation of the future energy system has been summarised in the 'Greek Energy Roadmap to 2050' document.

Within the SEEMLA approach the NREAP will be in relevance because biomass produced in MagL can contribute to the reduction of primary energy consumption, for generating electric power and heating - cooling.

3.29 Authorisation of biofuels - Law 3054/2002⁶⁰

Since 2002

Regulation; Promotion | Quota



Providing the measures and authorisation for biofuels, definitions of the concepts biomass, biofuels, bioliquids etc. It has been amended by the laws No.3423/2005 (FEK 304/B), No. 3769/2009 (FEK105/A), No.4062/2012 (FEK 70/A), No. 4093/2012 (FEK 222/A), No. 4111 (FEK 18/A).

Within the SEEMLA approach the Law 3054/2002 (FEK 230A/02-10-2002) will be of high relevance because it determines the measures and necessary authorizations for biofuels, definitions of biomass, biofuels, bioliquids etc., that also concern biomass production from MagL.

3.30 Tax Code - Law 3336/2005⁶¹

Since 2005

Tax Incentives



Energy taxes are levied within the framework of the 2003 EU Energy Taxation Directive for restructuring the European Community framework on the taxation of energy products and electricity); the Directive has been transposed into Greek legislation with Law 3336/2005, in combination with the provisions of the National Customs Code (Law 2960/2001).

⁵⁹ <https://ec.europa.eu/energy/en/topics/renewable-energy/national-action-plans> (last access: 28 February, 2017)

⁶⁰ <http://www.res-legal.eu/search-by-country/greece/single/s/res-t/t/promotion/aid/biofuel-quota-law-no-30542002/lastp/139/> (last access: 28 February, 2017)

⁶¹ <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:62011CC0186&from=DE> (last access: 28 February, 2017)

Tax rates are generally significantly higher than the minimum levels prescribed in the Directive, Laws 3828/2010, 3833/2010, 3845/2010, 3986/2011 and Law 4092/2012 amended Law 3336/2005 and have introduced major reforms.

Within the SEEMLA approach the Tax Code Law 3336/2005 (FEK 96A/20-04-2005) will be of relevance for the taxation of energy products e.g. solid biofuels produced from biomass originating from MagL.

3.31 Income Tax - Law 2238/1994⁶²

Since 1994

Tax Regulation



Provides for an income tax relief for natural and legal persons who have performed an energy upgrading of their building either on their own or as participants of National Programmes, i.e. Exoikonomo (*cf.* 3.39). The installation of RES may be deducted from taxable income (10% of the costs, up to a maximum of € 3,000). The programme primarily supports solar-thermal energy. However, all RES-H technologies are theoretically eligible.

Within the SEEMLA approach the Law 2238/1994 (FEK 151A/16-09-1994) will be in great relevance because it gives people incentives to proceed with the energy upgrading of their buildings by installing and using RES-H technologies and therefore could be combined with biomass production from MagL.

3.32 Limits for licensed power values and prices for electricity production from biomass production - Law 4254/2014⁶³

Since 2014

Obligatory Standards



Provisions concerning the feed-in tariffs of existing RES plants as well as other RES related provisions are included. Limits for licensed power values and prices for electricity production from biomass production, based on upgrade and implementation of memorandum.

Within the SEEMLA approach the Law 4254/2014 (FEK 85/A/07-04-2014) will be in great relevance because it sets the limits for licensed power values and prices for electricity production for electricity production from biomass production generally and thus biomass production from MagL.

⁶² http://www.oecd.org/ctp/transfer-pricing/Greece_TPCountryprofile_Oct2012.pdf (last access: 28 February, 2017)

⁶³ <http://www.res-legal.eu/search-by-country/greece/sources/t/source/src/law-no-42542014/> (last access: 28 February, 2017)

3.33 Regulation of issues relating to the operation of fixed furnaces for heating buildings and water - JMD 189533/2011⁶⁴

Since 2011

Obligatory Standards



Transposition of Directive 2009/28/EC; revises the institutional framework by removing the prohibition on the use of biomass boilers in central Athens and Thessaloniki. Biomass central heating boilers must be conforming to the requirements of Class 3 from the EU.

Within the SEEMLA approach the JMD 189533/2011 (FEK 2654B/09-11-2011) will be of great interest as biomass produced in MagL and converted into combustible material could be used in biomass heating boilers.

3.34 Standard environmental commitments - JMD 3791/2013⁶⁵

Since 2013

Obligatory Standards



Through Joint Ministerial Decision 3791/2013, 'Standard Environmental Commitments for renewable energy projects' were established, which standardised and simplified the environmental licensing of mainly photovoltaic projects; potential support of other RES projects such as related to biomass possible.

Within the SEEMLA approach the JMD 3791/2013 (FEK 104/B/24-01-2013) will be of interest as it will set up the directives of licensing of biomass products from MagL.

⁶⁴ <http://www.biomasspolicies.eu/wp-content/uploads/2013/09/National-Policy-Landscape-Greece.pdf> (last access: 28 February, 2017)

⁶⁵ https://repository.ihu.edu.gr/xmlui/bitstream/handle/11544/14487/m.lampridi_ems_25-02-2016.pdf?sequence=1 (last access: 28 February, 2017)

3.35 Codification - JMD A2-718/2014⁶⁶

Since 2014

Regulation; Market Access



Codification of the rules for the trafficking, product marketing and service; therein article 115 is referring to biofuels, and article 133 more specifically to solid biomass fuels: biomass fuel produced directly or indirectly from a biological source material, defined according to the standard ELOT CEN / TS 14588⁶⁷ (wood pellets, wood pellets, wood chips - woodchips, firewood, non-wood pellets, etc.), and are classified according to ELOT EN 14961⁶⁸.

Within the SEEMLA approach the JMD 718/2014 (FEK 2090/B/31-07-2014) will be of great relevance because it defines the rules for trade and marketing of products and services, specifically for the solid biomass fuels, which are directly related to the biomass production from MagL.

3.36 Exoikonomo kat'oikon⁶⁸

Since 2011

Regulation; Grants



The programme Exoikonomo kat'oikon or Εξοικονομω κατ οικον aims at improving the energy performance of residential buildings through the provision of interest-free loans and subsidies for the installation of RES plants and energy-saving measures. Eligible measures are the installation of an RES-H plant or the replacement of an existing conventional plant with an RES-H plant. The programme is co-financed by the EU's Regional Development Fund, which provides 85% of the programme budget.

Within the SEEMLA approach the programme “Exoikonomo kat'oikon” will be of great relevance, because it provides measures and financial opportunities to install an RES-H plant or the replacement of an existing conventional plant with an RES-H plant, which are directly related to the biomass and secondary products production from MagL.

⁶⁶ <https://www.taxheaven.gr/laws/circular/view/id/18959> (last access: 28 February, 2017)

⁶⁷ https://ec.europa.eu/energy/intelligent/projects/sites/iee-projects/files/projects/documents/forest_standards_guide_en.pdf (last access: 28 February, 2017)

⁶⁸ <http://exoikonomisi.ypeka.gr/> (last access: 28 February, 2017)

3.37 Solid biomass fuel for non-industrial use - JMD 198/2013⁶⁹

Since 2013

Obligatory Standards



In the JMD 198/2013 (FEK 2499B/04-10-2013) of the Ministry of Finance, on 'Solid biomass fuel for non-industrial use' requirements and test methods of/for solid biomass fuels for non-industrial use are described.

Within the SEEMLA approach the JMD 198/2013 will be of high relevance for the non-industrial use of biofuels produced on MagL.

3.38 Table of forestry products prices - JMD 135369/421

Since 2016

Price regulation



In the table of forestry products prices for the year 2016, fees that must be paid for forestry products of primary production that are produced in State forests and forest lands (firewood, combustible material, etc.) are defined.

Within the SEEMLA approach the JMD 135369/421 (FEK 618B/09-03-2016) will set prices for biomass products produced in MagL.

⁶⁹ <https://edu.klimaka.gr/arxeio/nomothesia-fek/fek-2499-2015-anatheseis-mathimata-gymnasio-lykeio.pdf> (last access: 28 February, 2017)

4 Ukraine

Table 3 Overview to Ukrainian regional/national policies relevant for the SEEMLA approach



















Policy	Policy Short title	Applicable value chain components					Value chain			Relevance for/impact on SEEMLA approach
		Biomass Supply	Logistics	Conversion	Distribution	End Use	Forestry	Agriculture	Biowaste	
										
Forest Code of Ukraine	Forest Code of Ukraine Afforestation and reforestation	x	x				x			+++
Single and Comprehensive Strategy for Agriculture and Rural Development in Ukraine for 2015-2020	Strategy for Agriculture and Rural Development	x	x					x		++
State Register of Plant Varieties Suitable for Dissemination in Ukraine	Law on Plant Life	x	x				x	x		++
The Land Code of Ukraine №2768-III	Land Code	x	x				x	x		+++
Resolution of the Cabinet of Ministers of Ukraine "On approval of the Action Plan for the Implementation of the Directive 2009/28/EU of the European Parliament and the Council" №791-p	Action Plan for the Implementation of the Directive 2009/28/EU	x	x	x			(x)	x		+++
Law of Ukraine "On energy saving" № 74/94	Energy savings			x	x	x	x	x	x	++
Ordinance of the Cabinet of Ministers of Ukraine "On Approval of the Concept of the State Target Research and Technology Development Programme of Production and Use of Biofuels" №276-p	Law on Promotion of Biological Fuels Production and Use			x	x	x	x	x	x	++
Law of Ukraine "On Alternative Energy Sources" №555-IV	Alternative Energy Sources			x	x	x	x	x	x	+++
Resolution of the National Electricity Regulatory Commission of Ukraine "On Approval of the Procedure of calculating tariffs for electricity and heat produced by CHPP, TPP, NPP and cogeneration plants and by installations with use of nonconventional or renewable energy sources" №896	Tariffs for electricity and heat cogeneration			x	x	x	x	x	x	+++
Law of Ukraine "On Combined Heat and Power (Cogeneration) and Waste Energy Potential" №2509-IV	Cogeneration and Waste Energy Potential			x	x	x	x	x	x	+++
The National Action Plan for Renewable Energy for the period until 2020 approved by the Order of the Cabinet of Ministers of Ukraine № 902-p	NREAP			x	x	x	x	x	x	+++
Law of Ukraine "On Alternative Types of Fuel" of №1391-XIV	Alternative Types of Fuels			x	x	x	x	x	x	++

Table 3 continued

Policy	Policy Short title	Applicable value chain components					Value chain			Relevance for/impact on SEEMLA approach
		Biomass Supply	Logistics	Conversion	Distribution	End Use	Forestry	Agriculture	Biowaste	
										
Green-Tariff - Law of Ukraine "On Electric Power Industry" of № 575/97-BP	Green Tariff					x	x	x	x	+++
Law of Ukraine "On Waste" № 187/98-ep	Waste					x	x	x	x	++
Tax Code of Ukraine № 2755-VI	Tax Code					x	x	x	x	++
Plan of short- and medium-term actions to reduce natural gas consumption until 2017 approved by the Order of the Cabinet of Ministers of Ukraine № 1014	Reduction of natural gas consumption					x	x	x	x	++
Resolution of the Cabinet of Ministers of Ukraine "On approval of the Energy Strategy of Ukraine until 2030" №1071-p	Energy Strategy until 2030					x	x	x	x	++
Resolution of the Cabinet of Ministers of Ukraine "On promoting of replacement of natural gas in the heat supply" № 293	Promotion of replacement of natural gas in the heat supply					x	x	x	x	++
Resolution of the Cabinet of Ministers of Ukraine "On promoting of replacement of natural gas in the production of heat energy for institutions and organizations financed from the state and local budgets" № 453	Promotion of replacement of natural gas					x	x	x	x	++

4.1 Forest Code of Ukraine | Afforestation and reforestation⁷⁰

Since 1994

Obligatory Standards



In 1994 the Ukrainian Parliament has adopted the Forest Code of Ukraine which regulates forestry management in modern socio-economic conditions and is aimed at conservation, improvement of wood quality and sustainable forest management. In 2002 the Parliament of Ukraine has adopted a new Land Code of Ukraine. Nowadays changes in land ownership cause the necessity for the State Forestry Committee of Ukraine to develop a new version of the Forest Code of Ukraine. In April 2002 the government of Ukraine has adopted the programme Forests of Ukraine for 2002-2015. Realization of this programme extends forest covered territories and other wooded lands to 11.3 Mio. ha and percentage of forests cover will be increased from 15.6% to 16.1%. The major aims of the Ukrainian forestry management are:

- extension of forests covered areas;
- conservation of biological diversity in forest ecosystems;
- increasing of the stability, resistance and adaptive capacity of forest ecosystems towards stresses; protection against fire, pests, diseases, climate changes and negative anthropogenic impacts;
- sustainable forest management which satisfies social demands;
- forest agromelioration and steppe forests cultivation.

The largest part of forests (99%) is state-owned. Around 50 ministries and departments permanently exploit the state forests. The major forest user is the State Committee of Forestry (SFC) (68.3% of all forests), Ministry of Agricultural Policy (24.0%) and Ministry of Defence (2.2%). The largest part of wood products (90%) is produced by state-owned enterprises. Private forests amount less than 1 % of forest fund. The Law of Ukraine "On the national program of the national ecological network for 2000-2015" (No: 1989-III of 21/092000) provides for the establishment of new forests in the area of 1.7 million hectares through afforestation of unproductive agricultural land and establishment of windbreakers. Specifically, unsuitable for agricultural use land makes a reserve for afforestation. Therefore, one of the most important tasks in Ukraine is proving forest cover to the optimum level. And the establishment of energy plantations of woody plants (willow, poplar, etc.) will contribute to this task. Main Goal: Regulate protection and management of forests; stimulate reforestation or afforestation.

Within the SEEMLA approach the 'Forest Code of Ukraine' will contribute to several basic guidelines in terms of biodiversity conservation, sustainability and overall for any activities conducted on MagLs, especially growing foreseen ligneous species e.g. willow, poplar, etc.

⁷⁰ <http://zakon1.rada.gov.ua/laws/show/3852-12> (last access: 1 March, 2017)

4.2 Strategy for Agriculture and Rural Development⁷¹

Since 2015

Regulation; Target



Single and Comprehensive Strategy for Agriculture and Rural Development in Ukraine for 2015-2020. The overall objective is to increase agricultural competitiveness and promote rural development in a sustainable manner in line with EU and international standards. The Strategy covers 10 strategic areas to provide an integrated, inclusive, equitable and realistic strategic vision and policy framework for reform in the agriculture sector including the development of bioenergy.

Currently, in Ukraine, there is no clear strategy for bioenergy development. The existing “Energy Strategy of Ukraine” has been being redacted, and each following version contains less and less attention to bioenergy. In the latest approved edition of the Strategy (*cf.* 4.17), the total potential of alternative energy sources in Ukraine up to 2030 is estimated at about 25 TWh of electricity based on renewable energy and about 2 million tons of biofuels.

The National Renewable Energy Action Plan (*cf.* 4.11) for the period until 2020 assumes that the bioenergy sector in Ukraine has the greatest potential. This is due to the peculiarities of climate and potential of the agricultural sector and the availability of necessary labour. The greatest energy potential in Ukraine has such biomass as agricultural crops, wood waste, liquid fuels from biomass, the biological component of municipal solid waste, and biogas. According to various estimates, the potential capacity of the bioenergy segment is equivalent to 15 GW.

However, implementation of the existing potential of bioenergy is complicated by the fact that there are no developed infrastructure and available feedstock required to ensure a sustainable supply of feedstock, low level of industries that can be the suppliers of equipment, and a small generation capacity of each object. In this connection, the dynamics of power generation from biomass drags behind the power generation based on other renewable energy sources. However, biomass can be an important part in the balance of heat production. In addition, introducing of incentive tariff for heat generated from renewable energy sources must take an important part in the development of biomass energy in Ukraine.

Based on the experience of the implementation of bioenergy plants in European countries having similar bioenergy potential, and in view of reducing the cost of construction of bioenergy power plants as a result of improved technology in Ukraine through the construction and putting into operation new bioenergy generating capacities, the production of electricity from biomass can be increased from 1,100 GWh in 2015 (with the total capacity of 250 MW) to 4,220 GWh in 2020 (with the total capacity of 950 MW).

Within the SEEMLA approach the ‘Strategy for Agriculture and Rural Development’ shall be useful for planning integrated development of exploitation of MagLs.

⁷¹ <http://minagro.gov.ua/en/node/15990> (last access: 1 March, 2017)

4.3 Law on Plant Life⁷²

Since 2016

Obligatory Standards



State Register of Plant Varieties Suitable for Dissemination in Ukraine, Law № 591-XIV; the registry lists the varieties and hybrids of plants that are allowed to grow in Ukraine. Therein mandatory requirements are given relating to activities capable of affecting the environment, protection, use, and reproduction of the plant world. Rare plant varieties and those on the verge of extinction, kinds of plants growing in the territory of Ukraine, within the limits of its territorial waters, continental shelf and exclusive (sea) economic zone, shall be subject to the special protection and shall be entered in the Red book of Ukraine.

More specifically, in this law it is defined which agricultural land is allowed for growing only those plants that are included in the State Register of Plant Varieties Suitable for Dissemination in Ukraine. If a plant variety can be used for energy purposes, then it is marked with “E” in the Register. An attempt to create a separate section for energy crops in the Register failed. Therefore, as of 2017, bioenergy crops in the Register can be met in various sections, mainly in the “Agricultural: Fodder”. Currently, the register includes such bioenergy plants as miscanthus, switchgrass, reed canary grass, sida, Jerusalem artichoke, cup plant, and basket willow. Thus, of tree crops, only basket willow can be grown on agricultural land. The State Veterinary and Phytosanitary Service of Ukraine jointly with the Institute of Bioenergy Crops and Sugar Beet developed methods of the state variety test for bioenergy crops.

Within the SEEMLA approach the Law ‘On Plant Life’ will be of use for comprehensive regulations about species that are biologically suitable and economically advantageous for MagLs.

4.4 Land Code of Ukraine^{73,74}

Since 2001; amended in 2015

Obligatory Standards



The Land Code of Ukraine № 2768-III; Article 171 of the Code defines three types of land that can be classified as marginal, namely technologically contaminated land, degraded land, and low-productive land. In the amended Land Code which had been approved by the Verhovna Rada of Ukraine in October 2001, private land ownership was legally enabled. Parliamentary adoption of Land Code caused the necessity to change the Forest Code of Ukraine (**cf. 4.1**). According to the Land Code, e.g. forest plots with an area less than 5 ha can become private and private forests can be planted on the private non-fertile lands.

⁷² <https://s2biom.vito.be/node/2312> (last access: 1 March, 2017)

⁷³ <http://www.unece.org/fileadmin/DAM/hlm/prgm/cph/experts/ukraine/laws/land.code.pdf> (last access: 1 March, 2017)

⁷⁴ <http://zakon0.rada.gov.ua/laws/show/2768-iii>

According to Ukrainian legislation, **marginal lands** can be referred to as following:

- Technologically contaminated land
- Degraded land
- Unproductive land

Technologically contaminated land is a land contaminated as a result of human activities, which led to land degradation and its negative impact on the environment and human health. Technologically contaminated land includes radiation-dangerous and radiation-contaminated lands, lands contaminated with heavy metals and other chemical elements, etc. When using technologically contaminated land, the specifics of the regime of their use must be taken into account.

Degraded lands include:

- Land area with surface broken by the earthquake, landslide, karsting, flood, mining etc.
- Eroded, over-wetted lands, lands of high acidity and salinity, lands with soil contaminated with chemicals and others.

Unproductive land comprises cultivated lands with soil characterized by negative natural properties, low fertility, and their use according to its intended purpose is economically inefficient.

According to our scientists' estimates, there are about 8 million hectares of land in Ukraine that could be employed for growing of bioenergy crops.

In some cases, the above-mentioned categories of land are considered as a subject of land conservation.

Conservation of unproductive and degraded lands is carried out in cases, when:

- its further utilization is environmentally dangerous and inefficient;
- if it environmentally clean products cannot be produced;
- people's staying at this land is hazardous for health.

Within the SEEMLA approach the 'Land Code of Ukraine' will be useful for determination of clear terms and definitions while identifying MagLs.

4.5 Action Plan for the Implementation of the Directive 2009/28/EU⁷⁵

Since 2014

Regulation; Targets



Resolution of the Cabinet of Ministers of Ukraine 'On approval of the Action Plan for the Implementation of the Directive 2009/28/EU of the European Parliament and the Council' № 791-p. The regulation implements Directive 2009/28/EU, which regulates the sustainable cultivation of biomass. It stipulates the requirements to reduce greenhouse emission, limits for growing bioenergy plants and social sustainability of biofuels.

⁷⁵ [http://www.kmu.gov.ua/document/247974779/AA_impl_report_02_2015_GOEI_ENG_Final%20\(2\).pdf](http://www.kmu.gov.ua/document/247974779/AA_impl_report_02_2015_GOEI_ENG_Final%20(2).pdf) (last access: 1 March, 2017)

Section 9 of the Resolution of the Cabinet of Ministers of Ukraine “On approval of the Action Plan for the Implementation of the Directive 2009/28/EU of the European Parliament and the Council” stipulates that the development of the existing infrastructure of the gas network in Ukraine must be developed until the end of 2017 to facilitate filling it with the gas produced from renewable energy sources. In addition, it contains amendments to the regulation on the access and connection to the Unified Gas Transportation System of Ukraine to ensure non-discriminatory integration of the gas produced from renewable energy sources.

Section 11 of the Resolution seeks to develop the technical requirements to the production and use of biofuels and bioliquids with the reduction of greenhouse gas emissions for biofuels and bioliquids produced at the plants put into operation after 1 January 2017, since 1 January 2017 at least by 50 %, and since 1 January 2018 at least by 60 %.

The Resolution also envisages a number of measures for the development of gaseous and liquid fuels for vehicles, which is not directly related to the SEEMLA project.

Within the SEEMLA approach the Action Plan will be used as an example for improvement of relevant incentive mechanisms and grants provision aspects.

4.6 Energy savings^{76,77}

Since 1994; amended in 2005

Tariffs



The resolution describes the calculation of tariffs for electricity by cogeneration from renewable energy sources, and sets up legal, economic, social and ecological grounds for energy saving for all enterprises, associations and organisations located in the territory of Ukraine and as well for its citizens. In order to lower energy demand, decrease energy costs and increase energy security energy efficiency and energy savings areas and methods are established.

The Law determinates that energy efficiency and energy savings plans and methods will be established and executed on national as well as on local levels in Ukraine.

Ukrainian government is obliged to create legislative framework supporting and incentivising energy savings financially (tax reliefs, grants, etc.) open for industry, businesses and individuals.

The government will be supporting scientific research into the sphere of energy savings processes and technologies.

In Ukraine, a government programme of ‘warm’ loans is available supporting citizens to implement energy efficiency measures in their households by offering a non-refundable financial assistance. In addition, the programme appeared to be an effective way to attract investment into the economy. For more than two years of the programme functioning, some 215,000 families applied for the loans which are more than 1.2 billion UAH of financial assistance for the implementation of energy efficiency measures. Due to this all parties, i.e. population, government, banks, and local governments, have been able to attract nearly 3 billion USD into the economy.

In 2016, for the first time ESCO mechanism was introduced in Ukraine, which is capital raising from private investment in the thermal modernisation of budgetary institutions, hospitals, schools, kindergartens, etc. Currently, there are 19 effective agreements concluded between budget-managing

⁷⁶ <http://zakon1.rada.gov.ua/laws/show/74/94-%D0%B2%D1%80/ed20051222> (last access: 1 March, 2017)

⁷⁷ <http://www.iea.org/policiesandmeasures/pams/ukraine/name-38647-en.php> (last access: 1 March, 2017)

institutions and companies for upgrading boilers, insulation, heat supply stations, lighting replacement, etc. investments made by a company vary from 250,000 to 1 million UAH. The annual savings expected from the completed work is at least 15-30%.

The law has been amended twice: 1999 and 2005, provides more detailed regulations for financing energy savings from governmental budget, and incorporating regulations on CHP.

Within the SEEMLA approach the Resolution 'On Energy Savings' will be used for determination of justified yet compelling tariffs for electricity form biomass CHPs.

4.7 Law on Promotion of Biological Fuels Production and Use⁷⁸

Since 2009

Regulation; Promotion



Resolution of the Cabinet of Ministers of Ukraine 'On Approval of the Concept of the State Target Research and Technology Development Programme of Production and Use of Biofuels' № 276-p. The purpose of the programme is a comprehensive solution to the problem of production and utilization of energy resources, increasing environmental and energy security of the country, reducing consuming of natural gas and petroleum products through introducing environmentally friendly technologies based on renewable energy sources, improving environmental protection.

Over the past three years, Ukraine has put into operation more than 1.6 GW of thermal capacity operating on other than gas, fuels, and energy. Thus, domestic market of production and consumption of local fuels was created, employment and revenues to local budgets increased.

In addition, in 2016, a nearly 4-fold increase in the number of households that have installed solar panels was observed compared with 2015, namely from 244 to 1,109 households. The capacity of solar panels grew almost 7 times as much, from 2.2 MW at the end of 2015 to 16.7 MW at the end of 2016. This indicates that households began installing more powerful panels than before. Shifting to solar energy, household owners not only care about their own energy independence but also make a profit by selling excess electricity generated to the network according to 'green' tariff.

In 2017, there are several priority draft bills function in the area of renewable energy in Ukraine, namely № 4334 on stimulation of heat production from alternative sources, and № 6081 on improving the investment opportunities in the field of power generation from alternative sources, on stimulation of installation of solar and wind power stations in private households, on the development of the production of liquid biofuels, and on the development of high-efficiency cogeneration.

Within the SEEMLA approach the Law 'On Promotion of Biological Fuels Production Use' will support attracting stakeholders, especially of private households.

⁷⁸ <http://zakon4.rada.gov.ua/laws/show/276-2009-%D1%80> (last access: 1 March, 2017)

4.8 Alternative Energy Sources⁷⁹

Since 2003; amended in 2015

Obligatory Standards



Law of Ukraine 'On Alternative Energy Sources' № 555-IV. The law presents definitions of key terms on alternative energy (Article 1), and basic principles of state policy in the field of alternative energy sources (Article 3). It prescribes general rules of public administration and state regulation of alternative energy in Ukraine (Section II). A framework for organizational support of the activities in the field of alternative energy sources is developed (Article 6). The features of alternative energy sources are reviewed (Section III).

Within the SEEMLA approach the Law 'On Alternative Energy Sources' shall be of use for thorough, but understandable definitions and rules on energy generation from biomass.

4.9 Tariffs for electricity and heat cogeneration⁸⁰

Since 2005

Tariffs



Resolution of the National Electricity Regulatory Commission of Ukraine 'On Approval of the Procedure of calculating tariffs for electricity and heat produced by CHPP, TPP, NPP and cogeneration plants and by installations with use of nonconventional or renewable energy sources' № 896. This law sets up legal, economic, social and ecological grounds for energy saving for all enterprises, associations and organisations located in the territory of Ukraine and as well for citizens. The regulation focuses on relations between economic entities and also between the state and physical and legal entities in the sphere of energy saving connected with extraction, processing, transportation, storage, production and use of fuel and energy resources, introduction of incentives for enterprises, organisations and citizens to invest in energy saving, application of energy saving technologies, design and production of less energy intensive machinery and technological equipment, securing responsibility of legal and physical entities in the energy saving sphere (Article 1). Tariffs for electricity and heat in Ukraine are regulated by National Energy and Strategy Regulatory Commission (NERC).

In **Figure 1** the dynamics of electricity tariff rise for households is given. The tariff for electricity is divided into three zones as following:

- 1) minimum tariff that is charged for the first 100 kW of electricity per month;
- 2) average rate for calculation of electricity consumption in the range from 100 to 600 kW;
- 3) maximum tariff that for the electricity consumption over 600 kW per month. Thus, there is an additional incentive to save energy.

⁷⁹ <http://zakon4.rada.gov.ua/laws/show/555-15> (last access: 1 March, 2017)

⁸⁰ <http://zakon4.rada.gov.ua/laws/show/z0574-06> (last access: 1 March, 2017)

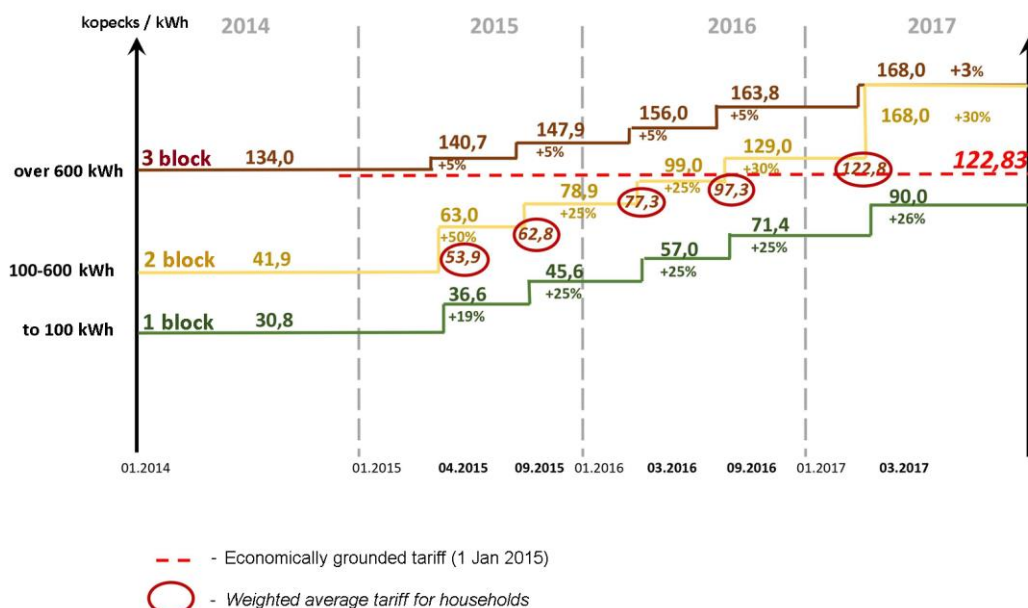


Figure 1. Dynamics of electricity tariffs for private households.

The cost of thermal energy in Ukraine is also determined by the Commission, with the price of 1 Gcal being determined individually for every end user and taking into account the cost of heat production. Once the [drafted] law "On the Heat" (№ 4334) will be adopted, the tariff for heat will be determined by local authorities, with the size of the tariff pegged to the price of 1 Gcal of heat derived from natural gas and amounting to 90% of this price.

Within the SEEMLA approach Ukrainian experience in tariffs for electricity and heat cogeneration may be useful when deriving guidelines and practices for tariffs on cogeneration of energy from biomass from MagLs.

4.10 Cogeneration and Waste Energy Potential⁸¹

Since 2005; amended in 2015

Obligatory Quality Standards



Law of Ukraine 'On Combined Heat and Power (Cogeneration) and Waste Energy Potential' of № 2509-IV. The purpose of the law is establishment of the legal base for improving fuel efficiency in the processes of energy production and other industrial processes, development and implementation of the technologies of combined production of electricity and heat, improving reliability and security of energy supply at the regional level, attracting investments to establish cogeneration plants.

Within the SEEMLA approach the Law of Ukraine 'On Combined Heat and Power and Waste Energy Potential' might be of great use for substantiation of cogeneration advantages, and more energetically sustainable actions incentives.

⁸¹ <http://zakon1.rada.gov.ua/laws/show/2509-15> (last access: 1 March, 2017)

4.11 National Renewable Energy Action Plan (NREAP)⁸²

Since 2014

Regulation; Funding



The National Action Plan for Renewable Energy for the period until 2020 approved by the Order of the Cabinet of Ministers of Ukraine № 902. The main goal of the NREAP is to achieve the share of 11% of energy from RES, in particular, in electricity production 11%, in transport sector 10%, in heating and cooling 12.4%, in final energy consumption in the country by 2020. The NREAP was developed in accordance with the requirements of Directive №2009/28/EU on the promotion of the use of energy from renewable sources. Electric power engineering from bioenergy plants expected to be 950 MW by the end 2020 (in 2016 this figure was 380 MW).

Within the SEEMLA approach the NREAP is of significant relevance for determination of objective prospective goals and stimuluses.

4.12 Alternative Types of Fuels⁸³

Since 2000; amended in 2015

Obligatory Standards



Law of Ukraine 'On Alternative Types of Fuel' of № 1391-XIV. The law provides definitions of key terms on alternative fuels (Article 1) and basic principles of state policy in the field of alternative energy sources (Article 2). The second section of the law describes characteristics of liquid, gaseous and solid biofuels, as well as specifics of the relations in the field of production and utilization of biofuels (Article 8). Section III draws a picture of economic incentives in the field of alternative fuels. This Law also regulates issues of international cooperation in the production and consumption of alternative fuels (Article 15).

Within the SEEMLA approach the Law of Ukraine 'On Alternative Types of Fuels' is relevant for classification and definition of biomass from MagLs.

4.13 Green Tariff⁸⁴

Since 1997; amendend in 2015

Tariffs



Green-Tariff - Law of Ukraine 'On Electric Power Industry' of № 575/97-BP. This law prescribes a mechanism to promote production of electricity from alternative energy sources. In particular, it provides so-called Green Tariff for electricity produced from biomass and biogas. The Law on Electrical Energy Industry" of 1997 created a legal framework for the "Green Tariff" scheme.

⁸² https://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Instruments/Renewable_Energy/NREAPs_Forecasts (last access: 1 March, 2017)

⁸³ <http://zakon2.rada.gov.ua/laws/show/1391-14> (last access: 1 March, 2017)

⁸⁴ <http://zakon2.rada.gov.ua/laws/show/575/97-%D0%B2%D1%80> (last access: 1 March, 2017)

The National Commission for State Energy Regulation (NERC) is responsible for management of the scheme, modification of the tariffs, granting and distributing financial support to the eligible parties. Support from the "Green Tariff" scheme can only be obtained upon the completion of a power plant. Technologies eligible for the support are, i.e. PV, wind, hydroenergy (≤ 10 MW), and biomass energy. In Ukraine, the "Green Tariff" for electricity generated from renewable energy sources, including biomass and biogas is effective (cf. Law of Ukraine 'On Amendments to the Law of Ukraine "On Electric Power Industry" to stimulate the production of electricity from alternative energy sources' (№ 5485-VI). This law stipulates the introduction of green tariff for the electricity produced from biogas and biomass from 2013 onwards and it galvanizes the flow of investment in the bioenergy sector. However, as of December 2016, only 6 Ukrainian companies were using the "Green Tariff" for electricity from biomass and biogas (**Table 4**). In comparison, the number of companies that have used the "Green Tariff" for electricity from solar radiant energy for the same period was 58.

Table 4. Number of energy producing companies in Ukraine, October 2016

Energy source	Number of companies	Green Tariff coefficient		
		01.01.2015-31.12.2019	01.01.2020-31.12.2024	01.01.2025-31.12.2029
Wind energy	17	1.26	1.12	0.98
Biomass energy	6	2.07	1.84	1.61
Biogas energy	12	2.07	1.84	1.61
Solar energy	111	3.15	2.80	2.45
Energy from small water and power plants	122	1.44	1.22	1.12

Within the SEEMLA approach the 'Green Tariff' will be greatly relevant when developing incentives and norms for production of energy from biomass from MagLs.

4.14 Waste⁸⁵

Since 1998; amended in 2015

Obligatory Standards



Law of Ukraine 'On Waste' № 187/98-вр. This law prescribes legal, organizational and economic principles of activities related to the prevention/reduction of waste, their collection, transportation, storage, sorting, processing, recycling and disposal, destruction and disposal, as well as preventing of negative impact of waste on the environment and human health in Ukraine.

Within the SEEMLA approach the Law of Ukraine 'On Waste' may be somewhat relevant when developing norms and standards within the approach, to increase sustainability potential.

⁸⁵ <http://zakon1.rada.gov.ua/laws/show/187/98-%D0%B2%D1%80> (last access: 1 March, 2017)

4.15 Tax Code⁸⁶

Since 2010; amended in 2013

Tax Exemptions



Tax Code of Ukraine № 2755-VI, VAT/Tax and Customs Duties Exemptions; the resolution defines the mechanism of import (without payment of import duties and value added tax) of machinery, equipment for reconstruction of existing and construction of new enterprises, equipment for production of biofuels, construction and reconstruction (re-engineering) of facilities and vehicles to ensure consumption of biofuels as well as mobile agricultural machinery that operate using biofuels by business entities. This law prescribes legal, organizational and economic principles of activities related to the prevention/reduction of waste, their collection, transportation, storage, sorting, processing, recycling and disposal, destruction and disposal, as well as preventing of negative impact of waste on the environment and human health in Ukraine.

Within the SEEMPLA approach the 'Tax Code of Ukraine' may be useful for development of utter mostly substantiated, credible incentives and tax exemption guidelines.

4.16 Reduction of natural gas consumption⁸⁷

Since 2014

Regulation



Plan of short- and medium-term actions to reduce natural gas consumption until 2017 approved by the Order of the Cabinet of Ministers of Ukraine № 1014-p. Unification of all urgent legislative initiatives on replacement of natural gas, including by way or its replacement with energy inputs from renewable sources and alternative fuels for heat-supply enterprises, industrial consumers, budget-financed institutions and population until 2017.

Reducing the consumption of natural gas is one of the main priorities of Ukraine. In Ukraine, an amount of produced in 2015 biofuel was equivalent to 3.26 billion cubic meters of natural gas, and the average growth rate for the period 2010 to 2015 amounted to 38 % annually (**Figure 2**), with the primary energy from biofuels equivalent to 2.63 billion cubic meters of natural gas. The difference between biofuel production and supply of energy produced from it can be explained by significant exports of biofuels, i.e. pellets, wood chips, wood, etc.

⁸⁶ <http://zakon1.rada.gov.ua/laws/show/2755-17> (last access: 1 March, 2017)

⁸⁷ <http://zakon3.rada.gov.ua/laws/show/1014-2014-%D1%80> (last access: 1 March, 2017)

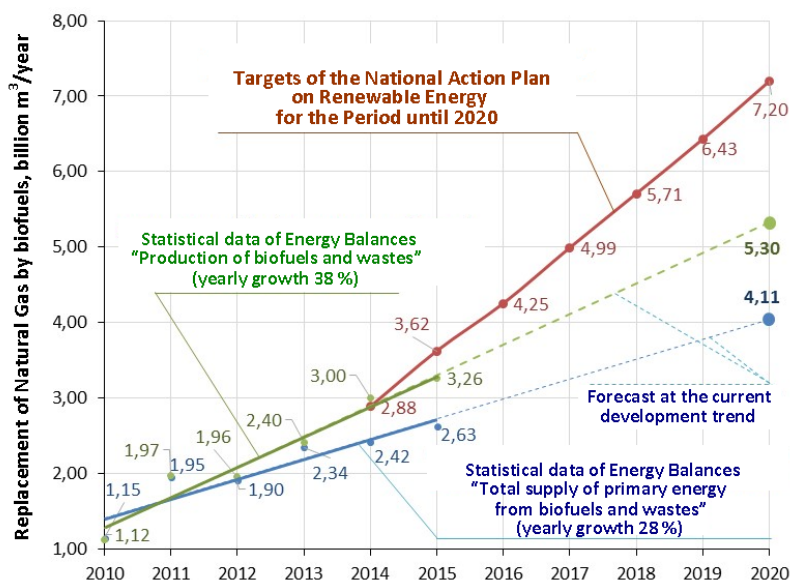


Figure 2. The growth of bioenergy in Ukraine (UABio 2016)

Within the SEEMLA approach the Order might be relevant for defining stimuluses for production of energy from biomass from MagLs.

4.17 Energy Strategy until 2030^{88,89}

Since 2013

Regulation; Strategy; Quota



Resolution of the Cabinet of Ministers of Ukraine 'On approval of the Energy Strategy of Ukraine until 2030' № 1071-p. Basic scenario of the Energy Strategy stipulates a transition to the use of petrol with 10% ethanol until 2020 and 15% ethanol until 2030, as well as transition to the use of diesel fuel with 7% biodiesel until 2030. It is assumed that more active development of biodiesel will start only in 2020 due to decreasing its production cost.

Currently, a new edition of the Energy Strategy of Ukraine until 2035 is being prepared. A new revision indicates that the use of renewable energy has the potential to improve energy security and reduce human impact on the environment. Therefore, along with increasing energy efficiency, it has become one of the most important issues of the energy policy of Ukraine. Utilization of biomass is technologically possible to produce electricity and heat. However, given the high cost of biomass transportation for distances over 100 km, it may be considered unfeasible. Since then, it makes sense to use especially this resource for a decentralized generation (e.g. individual solid fuel boilers).

⁸⁸ <http://www.lse.ac.uk/GranthamInstitute/law/energy-strategy-to-2030-approved-by-decree-reference-no-1071-p/> (last access: 1 March, 2017)

⁸⁹ <https://cnpp.iaea.org/countryprofiles/Ukraine/Ukraine.htm> (last access: 1 March, 2017)

The use of biofuels in vehicles has not yet become common in Ukraine because of the constant postponement of regulation on the mandatory content of bio-components in motor fuel.

Today, Ukrainian bioenergetics community is critical about the new edition of the Energy Strategy because of insufficient attention to the problems of bioenergy.

Within the SEEMLA approach the Resolution 'On approval of the Energy Strategy of Ukraine until 2030' will potentially foster practical planning of MagLs for bioenergy exploitation.

4.18 Promotion of replacement of natural gas in the heat supply⁹⁰

Since 2014

Tariffs; Promotion



Resolution of the Cabinet of Ministers of Ukraine 'On promoting of replacement of natural gas in the heat supply' № 293. The resolution foresees compensation of the tariff for heat derived from biofuels and prescribes that heat-generating companies that produce energy for households from alternative sources, shall be compensated for the difference between an investment-attractive tariffs for production of heat energy and the established tariffs for heat energy for households, produced using natural gas.

In Ukraine, much attention is paid to the replacement of natural gas by other fuels, primarily of biological type. Other resolutions of the Cabinet of Ministers are also dedicated to this issue:

- "On Stimulating the Replacement of Natural Gas in the Production of Thermal Energy for Institutions and Organizations Financed by the State Budget and Local Budgets" № 453, 2014 (**cf. 4.19**).
- "On the National Action Plan on Renewable Energy for the period until 2020" № 902-p, 2014 (**cf. 4.11**).

These resolutions provide compensation for the difference between the economically substantiated tariff for heat from biofuels and unprofitable tariff for heat energy for the needs of the population.

Besides, 20% refund mechanism for the loan for the purchase of solid fuel boilers remains in force. Today, approximately 215,000 households have joined the program. In addition, a 'Roadmap to reduce consumption of natural gas and develop RES for the period until 2020 has been approved.

Within the SEEMLA approach the Resolution of the Cabinet of Ministers of Ukraine 'On promotion of replacement of natural gas in the heat supply' may potentially be of significant value, as a rather large share of non-gas fuel used for heating in Ukraine is biomass.

⁹⁰ <http://zakon2.rada.gov.ua/laws/show/293-2014-%D0%BF> (last access: 1 March, 2017)

4.19 Promotion of replacement of natural gas (Institutions | Organizations)⁹¹

Since 2014

Tariffs; Promotion



Resolution of the Cabinet of Ministers of Ukraine 'On promoting of replacement of natural gas in the production of heat energy for institutions and organizations financed from the state and local budgets' № 453. The resolution foresees compensation of the tariff for heat derived from biofuels for institutions and organizations financed from the state and local budgets.

Within the SEEMLA approach the Resolution potentially can provide additional insight on the promotion and tariffs for production of energy from biomass from MagLs for larger systems e.g. groups of customers, administrative units, etc.

⁹¹ <http://zakon2.rada.gov.ua/laws/show/453-2014-%D0%BF> (last access: 1 March, 2017)

5 Links to partner projects

www.forbio-project.eu
www.biomasspolicies.eu
www.biomassfutures.eu
www.greengain.eu
www.s2biom.eu
www.bio-prom.net
www.bioresproject.eu
www.bioenergy4business.eu
www.transrisk-project.eu

6 Abbreviations

BAFA	Federal Office for Economic Affairs and Export Control (Bundesamt für Wirtschaft und Ausfuhrkontrolle)
BLE	Federal Office of Agriculture and Food
BMEL	Federal Ministry of Food and Agriculture
BMUB	Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety
CAP	Common Agricultural Policy
CC	Cross Compliance
CGAP	Code of Good Agricultural Practice
CHP(P)	Combined Heat and Power (Plant)
EAFRD	European Agricultural Fund for Rural Development
EAGGF	European Agricultural Guarantee and Guidance Fund
EC	European Council
ESCO	Energy Service Companies
EU	European Union
FEK	Official Governmental Gazette Issue (Φύλλο Εφημερίδος της Κυβερνήσεως, ΦΕΚ)
FIT	Feed-in tariff
FLEGT	Forest Law Enforcement, Governance and Trade
GHG	Greenhouse gas
iLUC	indirect Land Use Change
JMD	Joint Ministerial Decision
KfW	Reconstruction Loan Corporation (Kreditanstalt für Wiederaufbau)
LULUF	Land-use, land-use change and forestry
MagL	Marginal Land
MAP	Market Incentive Programme (Marktanreizprogramm)
MD	Ministerial Decision
MEECC	Ministry of Environment, Energy and Climate Change
NERC	National Commission for State Energy Regulation
NPP	Nuclear Power Plant
NREAP	National Renewable Energy Action Plan
PLANAK	Programme Committee for Agricultural Structures and Coastal Protection (Planungsausschuss für Agrarstruktur und Küstenschutz)
RED	Renewable Energy Directive
RES	Renewable Energy Sources
SRC	Short Rotation Coppice
TPP	Tidal Power Plants

Units

MW	megawatt
GW	Gigawatt
TW	Terawatt
kWh	kilowatt hour
MWh	Megawatt hour
GWh	Gigawatt hour
TWh	Terawatt hour
t	tonne
kt	kilotonne
PJ	Petajoule
oe	oil equivalent
toe	tons oil equivalent
ktoe	kilo tons oil equivalent
Mtoe	Mega tons oil equivalent
1 PJ	= 23.88 ktoe
100 ktoe	= 4.19 PJ
kilo (k)	= 10^3
Mega (M)	= 10^6
Giga (G)	= 10^9
Tera (T)	= 10^{12}
Peta (P)	= 10^{15}

7 Index of legislation (national and EU level)

Germany

36th Ordinance for the implementation of the Federal Emission Control Act **20**
 Act on Nature Conservation and Landscape Management - Federal Nature Conservation Act (BNatschG) **11**
 BAFA renewable heat investment support **19**
 Biofuel Quota Act (BiokraftQuG) **21**
 Biofuel Sustainability Regulation (Biokraft-NachV) **20**
 Biomass Sustainability Regulation (BioSt-NachV) **16**
 Closed Cycle and Waste Management Act (KrWG) **14**
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 Energy and climate fund (EKF) **18**
 Energy Tax Act (EnergieStG) **22**
 Federal Soil Protection Law and Ordinance (BBodSchG and BBodSchV) **13**
 Fertilization Ordinance (DüV) **14**
 Flexibility Premium **18**
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