



# National policy landscapes: Germany

## Deliverable 3.1 of the Biomass Policies\* project

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Authors: Luc Pelkmans (VITO), Matthias Edel, Toni Reinholz & Klaus Völler (DENA), Senta Schmatzberger (FNR)

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## Introduction

Biomass Policies is a project supported by the Intelligent Energy for Europe programme. The project aims to impact Member States' policies to improve the policy conditions/framework for the mobilisation of indigenous resource efficient bioenergy value chains in order to contribute towards bioenergy targets for 2020 and 2030. The focus is on the countries participating in the project, namely Austria, Belgium, Germany, Greece, Spain, Croatia, Ireland, the Netherlands, Poland, Slovakia and the UK.

Where there are considerable biomass potentials in the EU Member States, it will be important to implement the right balanced and integrated policies (taking into account different policy fields), aiming for a sustainable and resource efficient mobilization and use of relevant biomass resources, while keeping a level-playing field with other markets.

This report is one of the deliverables of work package 3 of the project, starting to map what policy already exists in different policy fields (energy, agriculture, environment, economy ...) which has relevance on the mobilisation and use of relevant biomass resources. The information is collected in templates, which will be available in a public database – this report contains a summary of the main policy measures and instruments.

The report starts with a concise overview of specific **country indicators** which have some relevance towards opportunities and challenges of biomass utilisation in the country; similarities with other countries will also be highlighted. The second chapter shows the implementation of renewable energy and the role of biomass therein. Chapter 3 shows the policy responsibility levels. Chapter 4 gives a schematic overview of relevant policy measures and instruments in terms of which policy field is in charge, and which parts of biomass value chains they impact, as well as short descriptions of all policy measures and instruments.

The current overview is made in the first half of 2014, and indicators are based on 2012 data. An update will be prepared by early 2016.

## 1 Country indicators: Germany

The following table gives an overview of indicators which have some relevance for the opportunities / challenges of biomass utilisation in a country. Figures are based on 2012 data from Eurostat (<http://epp.eurostat.ec.europa.eu/>). The list enables to detect similarities between countries. EU averages are mentioned as reference to signalize if values (expressed per capita) are low to high.

		<i>EU-28 average</i>	<i>Assessment</i>	<i>Similarities with other countries</i>
<b>1. Population and land surface</b>				
Population:	80.3 million	18.0 million	High	IT, UK, PL (FR), (ES)
Area:	357137 km <sup>2</sup>	160490 km <sup>2</sup>	High	
Population density:	225 persons/km <sup>2</sup>	112 persons/km <sup>2</sup>	Relatively high	
<b>2. GDP and trade</b>				
GDP at market prices:	2666 billion €	463 billion €		SE, DK, FIN, AT, IE, UK, BE, NL (FR), (IT)
	33200 €/capita	25700 €/capita		
GDP (pps)	123	100	relatively high	
Cross border movements :	801 billion €	129 billion €		
	10000 €/capita	6900 €/capita	relatively high	
<b>3. Energy</b>				
Primary energy consumption:	297.6 million toe	56.6 million toe		AT, FR, SK, SI, BE (UK), (GR)
	3.70 toe/capita	3.14 toe/capita	relatively high	
Energy dependence:	61.1 %	53.4 %	Average	
<b>4. Agriculture</b>				
Utilised agri area (UAA):	16667 1000 ha	6492 1000 ha		SI, LU, UK, AT (HR), (IE), (FR), (IT)
	0.21 ha/capita	0.36 ha/capita	Relatively low	
Productivity: cereal yield:	7.0 tonne/ha	4.9 tonne/ha	Relatively high	
Livestock density:	1.07 livestock units/ha	0.74 livestock units/ha	Relatively high	

		<i>EU-28 average</i>	<i>Assessment</i>	<i>Similarities with other countries</i>
<b>5. Forestry</b>				
Forested land:	11076 1000 ha	6410 1000 ha		DK, CZ, LU (PL), (BE)
	0.14 ha/capita	0.36 ha/capita	<i>Relatively low</i>	
Annual forest increment:	107 million m <sup>3</sup> /yr	27.8 million m <sup>3</sup> /yr		
	9.7 m <sup>3</sup> /ha/yr	4.3 m <sup>3</sup> /ha/yr	<i>High</i>	
	1.33 m <sup>3</sup> /capita/yr	1.54 m <sup>3</sup> /capita/yr		
<b>6. Municipal waste</b>				
Total municipal waste:	611 kg/capita/yr	492 kg/capita/yr	<i>Relatively high</i>	NL, DK, AT (SE), (BE)
Landfill:	0.5 %	33.3 %	<i>very low</i>	
Incineration:	34.9 %	23.4 %	<i>High</i>	
Recycling:	46.5 %	26.6 %	<i>High</i>	
Composting/digestion:	18.0 %	14.4 %	<i>Average</i>	
<b>7. Industry relevance (turnover)</b>				
Sawmill & wood planing:	71 €/capita	70 €/capita	<i>Average</i>	IT, BE, FR, AT (FIN)
Wood products:	209 €/capita	169 €/capita	<i>relatively high</i>	
Paper & products:	497 €/capita	346 €/capita	<i>Relatively high</i>	
Food products:	1848 €/capita	1760 €/capita	<i>Average</i>	
Chemical products:	1874 €/capita	1058 €/capita	<i>Relatively high</i>	

#### Importance for biomass utilisation:

Germany is a large country, with the **biggest population in Europe**. Population density is relatively high. In absolute terms, it has large amounts of resources from forestry, agriculture and waste, but, when expressed per capita, figures are generally a little below EU average. The country has strong industrial sectors – in particular the chemical industry. Germany has **high primary energy demand**, and relatively **high focus on trade**; quite **intensive agriculture** and livestock density, a high forest increment; **developed waste management**, with low landfill, high incineration and recycling.

There are similarities with the situation in the Netherlands, Belgium, Austria, UK, France and Denmark.

## 2 Implementation of renewable energy and the role of biomass

The implementation of renewable energy targets so far has been very country specific. The following tables show an overview of the implementation status, and the role of biomass.

### 2.1 Renewable energy implementation vs NREAP targets

Figures 2012, Eurostat

%	2009	2010	2011	2012	2020 target DE	EU average (2012)	2020 target EU*
<b>Overall share of renewable energy</b>	9.9	10.7	11.6	<b>12.4</b>	18.0	14.1	20.0
<b>In electricity</b>	17.4	18.1	20.9	<b>23.6</b>	30.0	23.5	31.3
<b>In heating and cooling</b>	9.2	10.3	10.8	<b>11.1</b>	14.0	15.6	19.2
<b>In transport</b>	5.5	6.0	5.9	<b>6.9</b>	12.0**	5.1	10.1

\* based on NREAP analysis (ECN, 2011)

\*\* the target is actually 7% GHG reduction, which would be equivalent to 12% biofuels.

Germany has an **average RE target** in Europe. The RE share achieved in 2012 needs to be increased with around 50% by 2020, in all three sectors (electricity, heating and cooling, and transport).

### 2.2 Role of biomass

Figures 2012, Eurostat

			EU average		Assessment
Total renewable energy – gross inland consumption	33078 412	ktoe kg oil-eq/cap	366	kg oil-eq/cap	
Share of biomass	72.4	%	66.7	%	Average
Solid biomass	11811 147	ktoe kg oil-eq/cap	171	kg oil-eq/cap	Average
Biogas	6416 80	ktoe kg oil-eq/cap	24	kg oil-eq/cap	Very high
MSW – renewable part	2596 32	ktoe kg oil-eq/cap	18	kg oil-eq/cap	Relatively high
Liquid biomass (mostly biofuels for transport)	3142 39	ktoe kg oil-eq/cap	31	kg oil-eq/cap	Average

Biomass forms the major share in renewable energy in Germany (more than 70%). From total biomass use, solid biomass represents around 50% of biomass applications for energy; the share of energy from **biogas** is particularly high in comparison to the EU average.

## 2.3 Biogas production and biomethane upgrading

ref. EurObserv'ER, 2013

			<i>EU average</i>		<b>Assessment</b>
Total biogas (primary production)	6416.2 79.9	ktoe kg oil-eq/cap	23.8	kg oil-eq/cap	Very high
Landfill gas	123.8 1.5	ktoe kg oil-eq/cap	5.6	kg oil-eq/cap	Relatively low
Sewage sludge	372.1 3.8	ktoe kg oil-eq/cap	2.3	kg oil-eq/cap	Relatively high
Other biogas (digesters)	5920.3 73.7	ktoe kg oil-eq/cap	15.9	kg oil-eq/cap	Very high
Number of biomethane upgrading plants (DENA, June 2014)	151	-			

**Biogas production** is much higher than EU average, with a major focus on digesters. There are many activities in terms of **biomethane** upgrading.

## 2.4 Renewable electricity from biomass

Figures 2012, Eurostat

			<i>EU average</i>		<b>Assessment</b>
Gross electricity production	629813	GWh			
Renewable electricity	148640	GWh			
	23.6	%	23.5	%	Average
Electricity from biomass	44279	GWh			
	7.0	%	4.4	%	Relatively high
Electricity from <b>solid biomass</b>	12091	GWh			
	27.3	%	55.1	%	low
of which electricity only	43.7	%	32.6	%	
of which CHP	56.3	%	67.4	%	Average
Electricity from <b>biogas</b>	27238	GWh			
	61.5	%	31.8	%	Very high
of which electricity only	21.7	%	35.1	%	
of which CHP	78.3	%	64.9	%	Relatively high
Electricity from <b>MSW (renewable)</b>	4950	GWh			
	11.2	%	13.0	%	Average
of which electricity only	63.0	%	48.3	%	
of which CHP	37.0	%	51.7	%	Relatively low
<b>Production type</b>					
Electricity only - main activity	13347	GWh			
	30.1	%	24.7	%	average
Electricity only - autoproducer	975	GWh			
	2.2	%	10.7	%	low
CHP - main activity	26778	GWh			
	60.5	%	40.5	%	Relatively high
CHP - autoproducer	3179	GWh			
	7.2	%	24.1	%	low

### **Modest share of biomass in renewable electricity**

Electricity from biomass represents a share of 7% of gross electricity production (compared to an overall renewable electricity share of 23.6%). So a modest share of 30% of renewable electricity comes from biomass.

### **Importance of biogas:**

Around 27% of bio-electricity is produced from solid biomass, 61% from biogas and 11% from MSW. This indicates the importance of biogas for electricity production.

### **Importance of CHP, particularly 'main activity'**

The main focus is on (biogas) CHP plants, the majority as main activity (selling electricity and heat). Low share of autoproducers.

## **2.5 Renewable heat from biomass**

Figures 2012, DENA (DE Progress Report not available yet).

			<b>EU average</b>		<b>Assessment</b>
Gross heat consumption	118500	ktoe			
Renewable heat	11300	ktoe			Relatively low
	9.5	%	15.6	%	
of which district heating	939	ktoe			Average
	8	%	10	%	
Heat from biomass	8909	ktoe			
	79	%	89	%	
of which biomass in households	5520	ktoe			
	62	%	53	%	

**Overall renewable heating** is relatively low, around 80% from biomass.

Average **use of district heating**, mainly related to the use of waste heat from waste incinerators.

## 2.6 Biofuels for transport

Figures 2012, Eurostat & DENA (DE Progress Report not available yet)

			EU average		Assessment
Final energy consumption in transport	51538 0.64	ktoe ktoe/cap	0.59	ktoe/cap	Relatively high
of which diesel fuels (incl. bio)	62.0	%	68.4	%	average
of which gasoline (incl. bio)	35.7	%	28.8	%	Relatively high
of which LPG	1.2	%	1.9	%	Average
of which natural gas (incl. bio)	1.1	%	1.0	%	Average
Overall renewable energy in transport (incl. double counting & electricity in transport)	3827 7.4	ktoe %	5.1	%	
Biofuels (excl. double counting)	3104	ktoe			
Physical share in transport fuels	6.0	%	4.9	%	Relatively high
of which biodiesels	4.4	%	3.9	%	
of which biogasoline	1.5	%	1.0	%	
of which biogas	0.06	%	0.03	%	
Art 21 biofuels	387	ktoe			
share of total biofuels (physical)	13	%	15	%	average

Main Art 21 biofuels:

- biodiesel from used cooking oils and animal fats
- HVO from used cooking oils and animal fats

Germany has **relatively high energy consumption** in transport.

Biofuels implementation is higher than EU average, with a **moderate role of advanced or double counting biofuels**. The physical share of biodiesel (excl. double counting) is around average.

There is some natural gas in transport, biomethane's share in the natural gas vehicles consumption reached more than 20% in 2013.

### 3 Policy responsibility levels

The following table shows an overview of policy themes which have relevance to biomass mobilisation and utilisation, and where the responsibilities are.

Policy theme	National	States (16) (BundesLänder)	Government Regions	Districts (Kreise)
Agriculture	BMEL	x		
Forestry	BMEL	x		
Waste	BMUB	x	x	x
Environment	BMUB	x	x	x
Climate	BMUB	x		
Energy	BMWi	x	x	x
Mobility & Transport	BMVI	x	x	x
Taxation	BMF			
Product normation	BMWi			
Enterprise	BMWi	x	x	x
Procurement	x	x	x	x
Trade	BMWi			
Innovation	BMBF	x		

*'(x)' means more indirect involvement, or more executive (not policy making)*

BMEL	Federal Ministry of Food and Agriculture	Bundesministerium für Ernährung und Landwirtschaft
BMUB	Federal Ministry of Environment	Bundesumweltministerium
BMWi	Federal Ministry for Economic Affairs and Energy	Bundesministerium für Wirtschaft und Energie
BMVI	Federal Ministry for Transport and Digital Infrastructure	Bundesministerium für Verkehr und digitale Infrastruktur
BMF	Federal Ministry of Finance	Bundesministerium der Finanzen
BMBF	Federal Ministry of Education and Research	Bundesministerium für Bildung und Forschung

## 4 Policy landscape for biomass value chains

This chapter provides an overview of national policy measures and instruments which could potentially have an impact on the mobilisation and utilisation of biomass. Input for these measures was provided by the national representative in the Biomass Policies project. EU directives are not included (can be found in the EU policy landscape).

### 4.1 Schematic overview

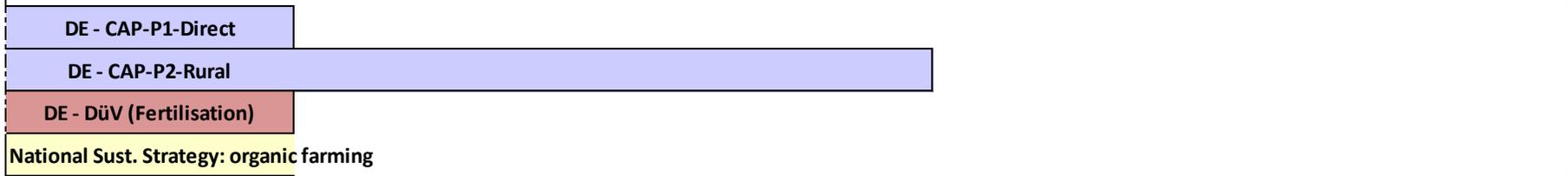
The measures/instruments are categorised according to the policy theme/domain which is in charge. In the schematic overview, it is also indicated for which parts of the value chains these measures are relevant (supply, logistics, conversion, distribution, end use). The colours indicate whether instruments are predominantly financial by nature (blue), regulatory (red), or soft measures (yellow).

- Examples of financial measures are: feed-in tariff, premium, tax reduction, investment grants / subsidies, loans, R&D funding, ...
- Examples of regulatory measures: requirements, substitution obligation, permitting, zoning, procurement rules, standards (if enforced), ...
- Examples of soft measures: standards (if voluntary), product labels, publicity campaigns, guidelines, platforms, strategies, action plans, ...

In chapter 4.2, short descriptions are provided for each of the listed measures.



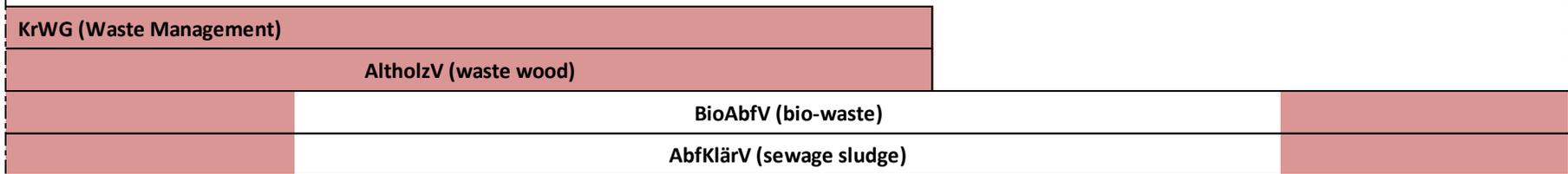
**AGRICULTURE**



**FORESTRY**

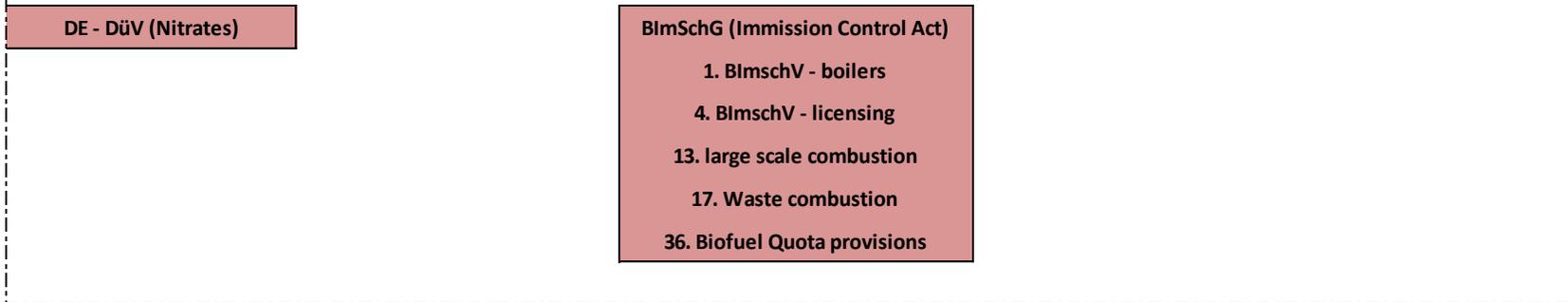


**WASTE**





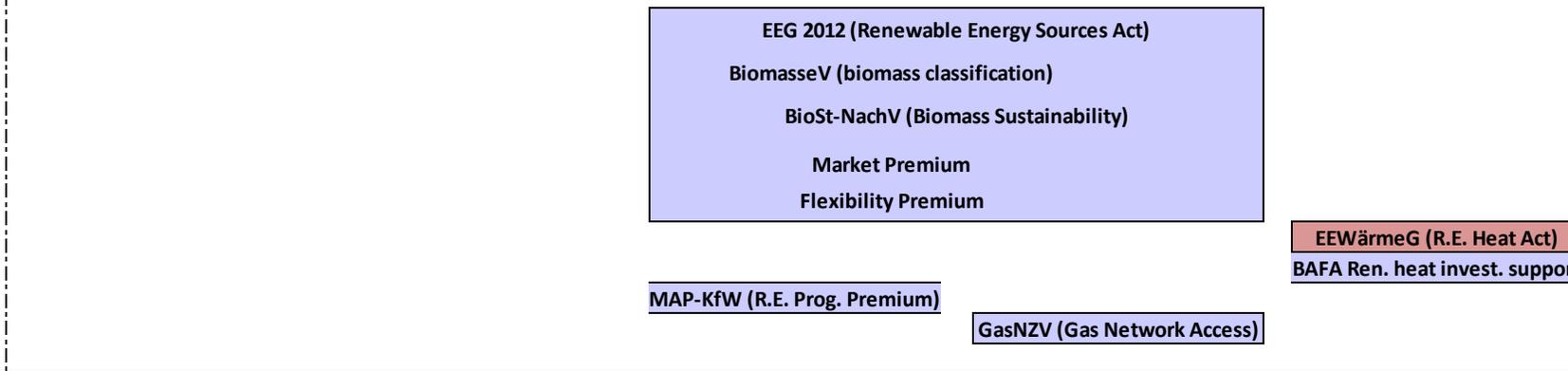
**ENVIRONMENT**

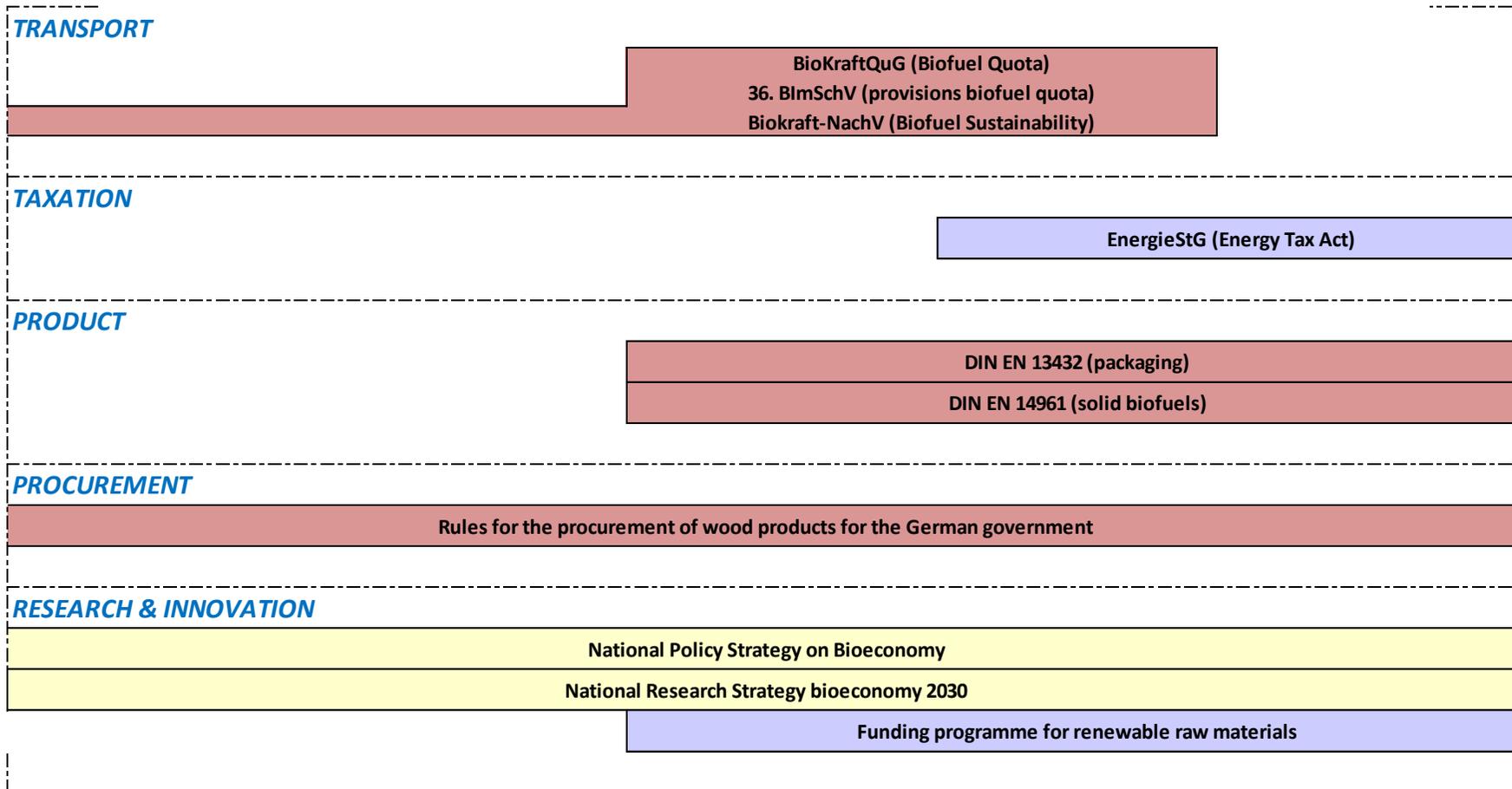


**CLIMATE**



**ENERGY**





soft measures     
  financial measures     
  regulatory measures



## 4.2 Short descriptions of policy measures and instruments

### 4.2.1 Agriculture

#### **CAP implementation**

The European Common Agricultural Policy (CAP) provides a framework for financial support to farmers (Pillar 1 - Direct Payments), and national rural development programmes (Pillar 2 - Rural Development). The new CAP 2014-2020 has recently been presented, and Member States are preparing their national approach within this framework. Approach of Germany not public yet.

- In line with European Common Agricultural Policy
- In force since 1992; proposals within new CAP 2014-2020 in preparation.

#### **Fertilization Ordinance (DüV)**

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

#### **National Sustainability Strategy of the Federal Government**

The National Sustainable Development Strategy was first presented at the UN World Summit on Sustainable Development in Johannesburg in 2002. Through a total of three extensive reports (2004, 2008, 2012), this strategy has been continuously updated. One priority field of action is to increase the share of organic farming up to 20 percent of agricultural area in Germany. A national fund supports measures increasing the public awareness of organic farming and supporting capacity building.

- In line with regulation on organic food and agriculture EC 834/2007

### 4.2.2 Forestry

#### **National Forests Act (BWaldG)**

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.

*Connection to **State Forest Acts**, e.g. in Bavaria (BayWaldG). These may include financial incentives for forest owners, as in Bavaria there are programmes for silviculture measures, forest roads, forest owner associations, environmental measures in forests.*

### **Forest Reproductive Material Act (FoVG)**

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

### **4.2.3 Waste**

#### **Closed Cycle and Waste Management Act (KrWG)**

The law rules 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

#### **Regulation on requirements for recovery and disposal of waste wood (AltholzV)**

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.

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

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 digestates.

#### **Sewage sludge Ordinance (AbfklärV)**

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

### **4.2.4 Environment**

#### **Immission Control Act (BImSchG)**

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

- 1. BImSchV: small and medium sized boilers: regulates the type of feedstock to burn in small and medium sized boilers, the thresholds for certain emissions and the efficiency of the applications.
- 4. BImSchV: installations subject to licensing
- 13. BImSchV: large scale combustion, gas turbines and combustion engines
- 17. BImSchV: combustion and co-combustion of waste
- 36. BImSchV: Implementation of the provisions of the biofuel quota (see further)

## 4.2.5 Climate

### **Integrated Energy and Climate Programme**

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.

### **German Strategy for Adaptation to Climate Change**

The federal government adopted the German Strategy for Adaptation to Climate Change in December 2008. The aim of the Adaptation Strategy is to reduce vulnerability to the consequences of climate change, i.e. to maintain or improve the adaptability of natural, social and economic systems. As part of the further development of the Adaptation Strategy, an Action Plan on Adaptation was coordinated with the Federal Länder and submitted in 2011.

### **International Climate Initiative (IKI)**

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.

### **Energy and climate fund (EKF)**

Focuses on: 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.

### **Forest climate fund (WKF)**

The policies of the funding guidelines develop the CO<sub>2</sub> reduction, energy and substitution potential of forest and wood and optimize the adaptation of the German forests to climate change. The main points are: adaptation of forests to climate change, securing CO<sub>2</sub> storage and binding in forests, increasing the CO<sub>2</sub> reduction through forests and wood products, research and monitoring of the funding guidelines 1-2 and information as well as communication to support the funding goals.

## 4.2.6 Energy

### **Renewable Energy Sources Act 2012 - Act on Granting Priority to Renewable Energy Sources (EEG 2012)**

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 depression rate, which depends on the year in which the plant was put into operation.

For the scope of application of the EEG, the **BiomasseV 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.

The **Biomass Sustainability Regulation** stipulates the sustainability requirements for bioliquids, according to the Renewable Energy Directive.

- In line with European Renewable Energy Directive 2009/28/EC

### **Ordinance on the Generation of Electricity from Biomass (BiomasseV)**

For the scope of application of the EEG, the BiomasseV 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.

### **Biomass Sustainability Regulation (BioSt-NachV)**

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 EEWärmeG – obligated under EEWärmeG when fulfilling commitment through liquid biomass

### **Market Premium (EEG, § 33g)**

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.

### **Flexibility premium (EEG, § 33i)**

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.

### **Renewable Energies Heat Act - Act to Promote Renewable Energy for Heating Purposes (EEWärmeG)**

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 share depends on the source of renewable energy used in the building. It is 15% for solar energy, 30% for heat from a biomethane or biogas fired CHP plant and 50% for other sources. Among these other sources, biomass fuels (firewood, pellets, chips, etc.) can only be used in high-yield boilers that comply with air quality legislation. The law is supplemented by the Market Incentive Programme (MAP). Public buildings are stimulated to take an exemplary role. The Biomass Sustainability Regulation stipulates the sustainability requirements for bioliquids, according to the Renewable Energy Directive.

- In line with European Renewable Energy Directive 2009/28/EC

### **BAFA renewable heat investment support**

In the framework of the Market Incentive Programme (MAP) BAFA provides investment support for heat produced in existing buildings. For biomass the following technologies are supported:

- Plants with automatic feeding for the burning of solid biomass for thermal usage  $\leq 100$  kW nominal heat output
- Low emission logwood boilers  $\leq 100$  kW nominal heat output (Scheitholzvergaserkessel)
- Secondary measures for emission reduction and efficiency of plants with  $\leq 100$  kW nominal heat output

### **KfW Renewable Energy Programme Premium**

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. 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

### **Gas Network Access Regulation (GasNZV)**

Support for feeding biogas into the gas network.

- Grid connection cost allocation now 25% for connectee, 75% for grid operator
- Ensure the long term availability of grid connections of at least 96%
- Implementation road map which establishes the timeframes for grid connection.

### **Biofuel Quota Act (BiokraftQuG)**

The main means of support for renewable energy sources used in transport is a quota obligation. The mechanism 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 as set out in the Biofuel Quota Act. Obligated fuel suppliers may assign this obligation to other companies.

In 2009 an Amendment Act was adopted to amend parts of the Biofuel Quota Act and the Immission Control Act. The act amends 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

### **36<sup>th</sup> Ordinance for the implementation of the Immission Control Act: Implementation of the provisions of the biofuel quota (36. BImSchV)**

The 36<sup>th</sup> Ordinance of the Immission Control Act (see Environment) determines a minimum share of biofuels in transport sector, requirements for biofuels and employs energetic reference values.

### **Biofuel Sustainability Regulation (Biokraft-NachV)**

The Biofuel-Sustainability Regulation aims to stimulate the fulfilment of the Immission 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

#### 4.2.7 Transport

See Energy – biofuels

#### 4.2.8 Taxation

##### **Energy Tax Act (EnergieStG)**

The Energy Tax Act regulates the amount of taxes on energy consumption (Verbrauchersteuer) 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

#### 4.2.9 Trade

Reference to EU level.

#### 4.2.10 Enterprise / product norms

##### **Packaging - Requirements for packaging recoverable through composting and biodegradation - DIN EN 13432:2000**

##### **Solid biofuels - DIN EN 14961**

- Part 2: wood pellets for non-industrial use
- Part 3: wood briquettes for non-industrial use
- Part 4: wood chips for non-industrial use
- Part 5: log wood for non-industrial use

Reference to EU level.

#### 4.2.11 Procurement

##### **Rules for the procurement of wood products for the German government**

The procurement of wood products for the German government is required to originate from sustainably managed forests.

#### 4.2.12 Research and innovation

##### **National Policy Strategy on Bioeconomy**

The Policy Strategy – Bioeconomy sets priorities for advancing towards a knowledge-based bioeconomy and it highlights areas that require action. The aim is for the guiding principles, strategic approaches and measures to contribute to making use of the areas of potential for the bioeconomy in Germany, and also help to strengthen the structural transition to a biobased economy. The strategic approaches are to be further developed to match the long-term goals and to adapt to new challenges. The degree of success achieved by the strategy is to be examined in a Progress Report.

##### **National Research Strategy bioeconomy 2030**

Between 2010 and 2016, the "Nationale Forschungsstrategie BioÖkonomie 2030" of the German Federal Government grants 2.4 Billion Euro to research and the realization of a knowledge-based bioeconomy in Germany. The government's goal is to reach a structural economic shift from a fossil- to a biobased industry through research and innovation. This shift is connected with enormous chances for growth and employment. At the same time, the strategy aims at taking over responsibility for global nutrition, security of supply for biobased raw materials and energy as well as for climate and environmental protection on an international level.

##### **Funding programme for renewable raw materials**

Promotion of research, development, pilot and demonstration projects and of commercially usable prototypes in the area of material and energetic use of renewable raw materials. Further measures in the field of consumer information and public relations are encouraged. This programme runs until 31.12.2015 and has a budget of €61m.