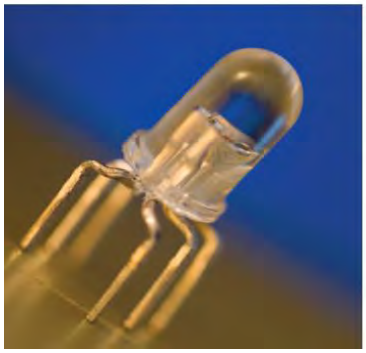


Assessment of climate change policies as part of the European Semester

Country Report Croatia

16 January 2015

A report submitted by ICF Consulting Services
in association with

Ecologic Institute, Berlin and eclareon GmbH

to DG Climate Action

ICF Consulting Services Limited
Watling House
33 Cannon Street
London
EC4M 5SB

T +44 (0)20 3096 4800
F +44 (0)20 3368 6960

www.icfi.com

Document Control

Document Title	Assessment of climate change policies as part of the European Semester: Country Report Germany
Job No.	30300170
Prepared by	Saša Rajković, eclareon GmbH
Date	12 January 2014
First point of contact	Lena Ruthner, ICF International Watling House 33 Cannon Street London EC4M 5SB Lena.Ruthner@icfi.com

This final draft report (the "Report") has been prepared by ICF Consulting Ltd ("ICF") and its subcontractors for DG Climate Action (the "Client") and does not necessarily represent the Commission's view. The Report is based on the data which was publicly available at the time of its delivery by ICF and ICF shall not be held liable for any change, update or any other alterations of this data after delivery.

The report is building on the country reports and other documents prepared by Ecologic Institute and eclareon for the Directorate General for Climate Action (DG CLIMA) under Service Contract: 071201/2012/635684/SER/CLIMA.A.3.

ICF and its subcontractors have used reasonable skill and care in checking the accuracy and completeness of information supplied by the Client or third parties in the course of this project under which the Report was produced. ICF is however unable to warrant either the accuracy or completeness of such information supplied by the Client or third parties, nor that it is fit for any purpose. ICF does not accept responsibility for any legal, commercial or other consequences that may arise directly or indirectly as a result of the use by ICF of inaccurate or incomplete information supplied by the Client or third parties in the course of this project or its inclusion in this report.

Contents

1 Short Summary

In Croatia, climate and energy targets are outlined in the Energy Development Strategy adopted in 2009 and the Plan for the Protection of the Air, the Ozone Layer and Climate Change Mitigation in the Republic of Croatia. These documents entail the objective and the adequate measures for Croatia to achieve a reduction in GHG emissions by 20 % until 2020 compared to 1990 levels. The latest projections indicate that Croatia is on track to achieve its goal in 2020.

The Croatian non-ETS target under the Effort Sharing Decision (ESD) is +11 % compared to 2005 levels and non-ETS emissions were reduced by 4.6 % between 2008 and 2013, which is above the interim target. According to the latest national projections submitted to the European Commission and taking into account existing measures, the 2020 target is exceeded by 11 % percentage points.

In the last year (Jan. 2014 – Jan. 2015) Croatia's key policy developments were the introduction of a new Laws on Energy Efficiency and in the Building Sector and a new National Action Plan for Energy Efficiency (see Chapter 4.2.2). Furthermore, there have been several changes to the Tariff System for Electricity Production from Renewable Energy Sources and CHP in order to abolish administrative barriers (see Chapter 4.2.3).

2 Climate and energy policy priorities

After its accession to the European Union in 2013, the Republic of Croatia committed itself to the common European objective of reducing greenhouse gas emissions by 20% by 2020 compared to 1990 levels. In the year 2011, the total GHG emissions amounted to 28,421 Gg CO2-eq, which indicates a reduction of GHG emission of 10.3% in comparison with the year 1990. There have been two significant trends in GHG emissions since 1990: during the Civil War in the former Yugoslavia between 1991 – 1994 GHG emissions fell. Secondly, there was a decline between 2009 – 2011 due to the EU financial and economic crisis which led to decreased industrial production levels and fuel consumption. The latest projections indicate that Croatia will achieve its goal in 2020 with additional measures (Sixth National Communication, 2014).

In 2013, the total electricity generation in Croatia of 206.76 PJ consisted mostly of hydro power (38.1 %) followed by natural gas (31.5 %), biomass (14.3 %) and crude oil (12.4 %). Other renewable energy sources (RES) (e.g. wind and solar power) contributed only 3.7 %, but they had the by far biggest increase rate since 2008. Crude oil and natural gas in contrast decreased by 6-7 % (Energy Report 2013). In 2013, 2,518 GWh of nuclear electric energy were produced by the nuclear power plant in Krško (Slovenia), which is co-owned in equal shares by the Slovenian and Croatian States and therefore only 1,259 GWh were transferred into the Croatian grid.

The Energy Development Strategy entails several provisions outlining the basic goals and means of the Croatian climate action policy and thereby integrates it into the general energy policy objectives. A key document for the period between 2013 and 2017 is the Plan for the Protection of the Air, the Ozone Layer and Climate Change Mitigation in the Republic of Croatia (NN 139/2013). It determines the objectives for the reduction of GHG emissions and sets out the measures in the energy industry, industrial processes, transport, agriculture, forestry and waste management sectors. In cooperation with the United Nations Development Programme the Ministry of Environmental Protection elaborated a Framework for a Low-Emission Development Strategy for Croatia with long-term considerations on Climate Change policy until the year 2050 (UNDP 2013). It proposes measures in the priority fields of energetics, construction, transport, agriculture, waste, forestry and tourism, which aim at reconciling a reduction of GHG emissions with sustainable economic growth. Mainly, this shall be achieved through information, the introduction of innovative technologies (particularly by the public sector as role model), considerable investments in infrastructure and the promotion of green jobs.

Croatia periodically creates national GHG inventories and national communications on climate change, according to which it reports on performing the obligations from the United Nations Framework Convention on Climate Change. Moreover, Croatia reports to the EU on the implementation of policy and measures regarding the reduction of GHG emissions and regularly submits long-term emission projections (Sixth National Communication 2014).

3 GHG trends and projections

Croatia reduced its total GHG emissions by 20% between 2005 and 2013. The share of GHG emissions not covered by the European Emission Trading Scheme (EU ETS) is around 65%, which is above the EU28 average (see Table 1).[1]

Table 1 Key data on GHG emissions

		National data				*EU28*
		2005	**2011**	**2012**	**2013**	***2013***
Total GHG emissions	Mt CO_2eq	30.7	28.5	26.4	24.5	*4 539*
Non-ETS emissions	Share in total emissions	n.a.	n.a.	n.a.	65%	*58%*

Source: EEA 2014a; EEA 2014c

By 2020, Croatia can increase its emissions not covered by the EU ETS by 11% compared to 2005, according to the Effort Sharing Decision (ESD). The latest data for 2013 show that Croatia reduced its emissions by 8.7% rather than increasing its emission by up to 3.9%, which the annual allocation interim target under the ESD allowed for the year 2013 (see figures in Table 2). National projections indicate that the country will reduce its emissions by 5.9 percentage points with existing measures (WEM) in 2020 rather than increasing emissions as the target allows (EEA 2014a).

Table 2 Non-ETS emission targets, trend and projections

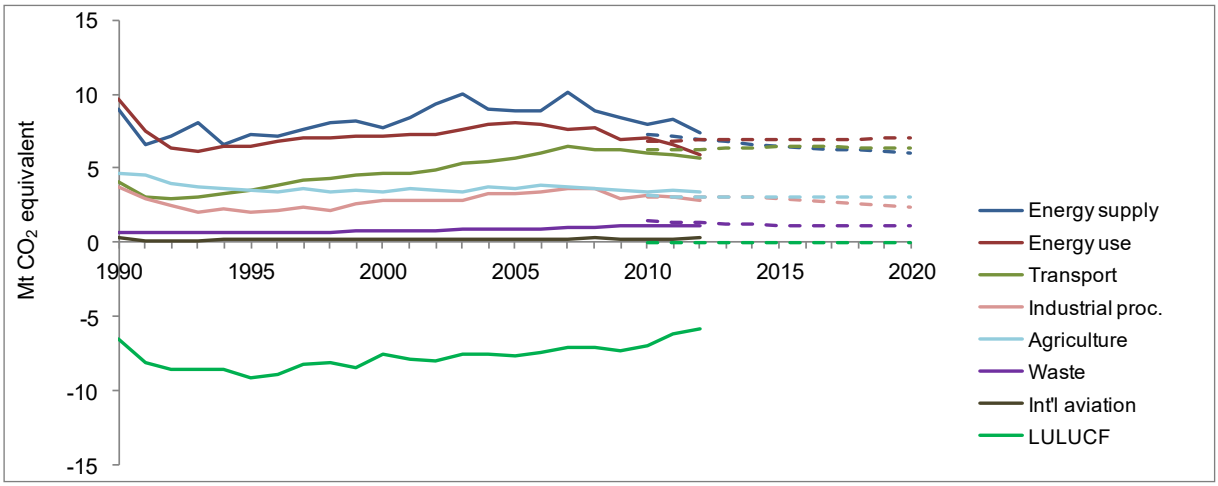
		Compared to base year
2013	ESD interim target	+ 3.9%
	ESD emissions	– 8.7%
2020	ESD target	+ 11.0%
	ESD projections WEM	– 5.9%
	ESD projections WAM	n.a.

Source: EEA 2014a. Green indicates target met or exceeded, orange indicates a value below.

GHG emissions are mainly created by the energy industry followed by direct fuel consumption (e.g. households for heat generation) and the transport sector (see figure below for historic and estimated emissions by sector). Projections indicate that by 2020 emissions from the energy industry will be reduced. Emissions from direct fuel consumption and transport are expected to remain relatively stable; however, in both sectors emissions decreased over the last two to three years.

[1] The European Environment Agency has developed a complex methodology to measure progress on the Non-ETS/ESD targets of all EU Member States. This report uses the figures derived on this basis. A detailed explanation and the underlying absolute amounts are contained in Annexes 1-3 of the EEA report No 6/2014 "Trends and projections in Europe 2014. Tracking progress towards Europe's climate and energy targets for 2020" available at http://www.eea.europa.eu/publications/trends-and-projections-in-europe-2014/

Figure 1 GHG trends and projections by sector



Source: EEA 2014a. Actual data until 2012 and projections from 2010 onwards.

4 Policy development

This section covers significant developments made in key policy areas between January and December 2014. It does so through thw different perspectives: 1) progress on the policies communicated under the National Reform Programme 2) developments in the identified national priority sectors and policy areas.

4.1 Key policies as outlined in the National Reform Programme

Member States prepare National Reform Programmes (NRPs) each April outlining the country's progress and the key policies and measures to achieve targets under the EU 2020 Strategy. These key policies and measures are summarised in the following table and their current status is provided.

Table 3 Key policies and measures as outlined by the NRP 2014

Programme for Energy Renovation of Buildings in the Public Sector 2014-2015	
Status in the NRP	Adopted.
Status as per Dec 2014	In force.
Description of policy	See Chapter 4.2.2.

Programme on Energy Renovation for Non-Residential Commercial Buildings in the period of 2014-2020	
Status in the NRP	The Programme has been prepared.
Status as per Dec 2014	In force.
Description of policy	See Chapter 4.2.2.

New Law on Energy Efficiency	
Status in the NRP	Amendments to the former Law on Energy Efficiency.
Status as per Dec 2014	In force.
Description of policy	See Chapter 4.2.2.

Third National Energy Efficiency Action Plan	
Status in the NRP	In force.
Status as per Dec 2014	In force.
Description of policy	See Chapter 4.2.2.

National Action Plan for Renewable Energy Sources by 2020	
Status in the NRP	In force.
Status as per Dec 2014	In force.
Description of policy	See Chapter 4.2.3.

Amendments to the Air Protection Act	
Status in the NRP	Adopted in April 2014.
Status as per Dec 2014	In force.
Description of policy	This Act forms the legal basis for the adoption of strategic documents in the framework of the adaptation to climate change and air protection.

Framework for Low-Emission Development Strategy for Croatia (LEDS)	
Status in the NRP	Completed in 2013.
Status as per Dec 2014	In force.
Description of policy	This document envisages a long-term strategy of a low-carbon development of Croatia. See also Chapter 2.

4.2 National policy priorities

The below sub-sections provide updates on key existing and new policies in priority sectors and policy areas of relevance to the energy and climate targets under the Europe 2020 strategy[2]. Each sector or policy area contains information on the most important policy instruments in operation or development.

4.2.1 Environmental Taxation

In Croatia, the implicit tax rate on energy is the eighth lowest in the EU with 87 EUR per ton of oil equivalent in 2012 (Eurostat, tsdcc360). However, the share of environmental tax revenues in overall tax revenue was 8.9% in 2012 and therefore above the EU average of 6.1% and the fourth highest in the EU (Eurostat, ten00064). The same holds true for a comparison of environmental tax revenues with GDP, which amounted to 3.2% in 2012 (with the average at 2.4%) (Eurostat, ten00065).

4.2.2 Energy Efficiency

In terms of the energy intensity of companies Croatia comes 11th within the EU-28.. Energy intensity declined by 9% from 2005 to 2012 (Eurostat, tsdec360), while the final energy consumption dropped by 7% from 2005 to 2012 with the reductions coming mainly from the industrial sector and partly from the residential sector (Eurostat, tsdpc320). However, Croatia has EU energy efficiency targets that allow for a limited increase in consumption over historic levels and it is, therefore, currently on track towards meeting its targets (EEA 2014a).

The Croatian industrial sector's energy efficiency increased over 20% from 1995 to 2010. While efficiency improved in the steel, textile, and wood industries, an opposite trend can be reported for the construction, chemicals, and paper industries. Compared to the industrial sector, efficiency in the domestic sector increased over the same period of time by only 4%. Improvements in space heating and large electrical appliances were the driving forces behind this trend (Odyssee 2012).

The main support schemes in terms of promoting energy efficiency are financial incentives for investments into energy-efficient products provided by the Fund for Environment Protection and Energy Efficiency (Fond za zaštitu okoliša i energetsku učinkovitost - FZOEU). It is mainly financed through diverse environmental taxes, including pollution fees and environmental user fees. The fund publishes new public calls throughout the year according to the current Yearly Public Calls Programme, which can be found on the funds website (FZOEU Programme 2015).

[2] The Consortium jointly with DG Clima identified these based on identified challenges in Country Profiles (EEA, 2014), share of sectors in total GHG emissions, and Country Specific Recommendations (2014). DG Clima has identified additional relevant issues to be reviewed for some or all Member States, including country specific energy challenges.

Since its accession to the EU in 2013, the government is gradually changing the legal framework concerning energy efficiency.

In October 2013, the government adopted the Programme for Energy Renovation of Buildings in the Public Sector for the years 2014-2015, which is expected to result in around 200 tenders for energy efficiency renovations of public buildings across the country. The average energy consumption of public buildings amounts to 200 – 250 kWh/m^2 per year and could be reduced to 90 kWh/m^2 (Štirmer et al 2013). The estimated investments amount to approximately 400 million HRK (52.4 million EUR) and GHG reductions could reach 703.3 kt of CO2 equivalent until 2020 (Ministry of Construction and Spatial Planning 2013). An example for the government's intention to promote the public sector as a role model for green building was the renovation of several military facilities worth HRK 260 million (approx. 34 million EUR), which was significantly co-financed by the Fund for Environment Protection and Energy Efficiency (Environmental Fund).

The former Law on Spatial Planning and Construction (NN 76/2007) was replaced by three new laws that went into force in January 2014: the Law on Construction (Zakon o gradnji, NN 153/2013), the Law on Spatial Planning (Zakon o prostornom uređenju, NN 154/2013) and the Law on Building Inspection (Zakon o građevinskoj inspekciji, NN 153/2013). The government expects these new pieces of legislation to reduce administrative barriers for and encourage investments in the construction of new buildings. Moreover the public decision-making process in this area will become faster, simpler and more transparent. The new regulation will also support increased energy efficiency in buildings through an obligation to insulate a building's exterior within 5 years of the commencement of construction for single-family houses and within 10 years for apartment buildings. Additionally, energy savings shall be achieved by requiring new buildings to undergo one-off energy audits.

In May 2014, the Ministry of Construction and Spatial Planning adopted the Programme on Energy Renovation for Non-Residential Commercial Buildings in the Period of 2014-2020. Since the redemption period of 7.37 years for investments in building renovation is often deemed to be too long and thus unprofitable for investors, the programme foresees incentives carried out by the Environmental Fund, where applicants can get from 40 up to 80% of their project costs subsidised, if they fulfil the criteria of the specific tender (Ministry of Construction and Spatial Planning 2014). The programme focuses on the financial support of energy renovations of buildings that were built until 1989 and that are used for industry or business purposes in general (e.g. tourism). The implementation of the programme is expected to save 1.48 PJ (413 GWh) until 2016 and to create 6,000 to 11,000 new jobs by 2020 (Štirmer/Pečur/Milovanović/Carević 2013; UNDP 2010). Due to high demand, the objectives for the year 2015 pursuant to the Programme had already been met in July. The Environmental Fund has so far provided grants for the energy renovation of 6,000 houses, although the programme originally foresaw only 2,000 in the year 2014. Thus, the fund ensured unscheduled means of almost HRK 160 million (20,959,700 EUR), which is nearly 3 times the amount of what was envisaged for this year.

In July 2014, the government adopted the Third National Action Plan for Energy Efficiency for the period of 2014 to 2016 in order to meet the requirements of both Art. 24 of Directive 2012/27/EU on Energy Efficiency and of the Directive 2010/31/EU on the Energy Performance of Buildings. The new Action Plan also contains a report on the execution of the Second National Action Plan for Energy Efficiency for the period of 2011 to 2013 and allows an assessment of actual energy savings in relation to the objectives set out in the first two Action Plans. The formerly outlined energy saving target of 19.77 PJ until the year 2016 was achieved by 76% in 2012 and is still valid, whereas the measures in order to attain this goal were partly adjusted (NAPE 2014). Pursuant to this new Action Plan, particularly high-energy savings in the upcoming years shall be achieved through the energy rehabilitation of public, commercial and residential buildings.

On 17 October 2014, the Croatian Parliament (Hravtski Sabor) adopted a new Law on Energy Efficiency ("Zakon o energetskoj učinkovitosti", NN 127/2014), which presents the main legal regulation on the efficient use of energy. It prescribes a catalogue of energy saving strategies on the local, regional and national level. Aside from saving energy, the law aims at reducing the harmful effects of energy generation on the environment (especially reducing GHG emissions) and enhancing the security of energy supply. It also grants more rights to consumers with regard to requesting and checking the execution of energy efficiency measures. Moreover, Art. 2 of the Energy Efficiency Law

serves to implement the Energy Efficiency Directive (2012/27/EU). With its entry into force the Law on the Efficient Use of Energy for Direct Consumption ("Zakon o učinkovitom korištenju energije u neposrednoj potrošnji", NN 152/2008, 55/2012, 101/2013 and 14/2014) ceased to be effective.

The government pointed out that the relatively low energy costs in Croatia present an investment barrier, because they offer little motivation for energy efficiency (Ministry of Construction and Spatial Planning 2014). A remedy is therefore seen in energy price increases, which the government expects to happen in the upcoming years. The poor knowledge of (in particular economic) potentials of energy efficiency measures in the population poses another barrier that the government wishes to overcome by raising awareness through campaigns and public tenders.

4.2.3 Renewable Energy

The share of renewables in gross final energy consumption was 16.8% in 2012, which is above the indicative 2012 target of 14.3% set out by the Renewable Energy Directive (RED). The average annual growth rate was 2.9% between 2005 and 2012. Thus, an annual growth rate of 4.5% is needed between 2013 and 2020 to reach the 2020 target of 20.1% (EEA 2014a). The share of renewable electricity generation in final electricity consumption increased only slightly from 32.8% to 35.5% between 2005 and 2012, while the share of renewable heating almost doubled from 10.8% to 18.3% (Eurostat, SHARES 2014).

The use of renewable energies is encouraged by favourable loans offered by the Croatian Bank for Reconstruction and Development (HBOR). Since 2004, the Fund for Environmental Protection and Energy Efficiency pays grants allocated to renewable energy projects (RES Legal 2014). In 2014, the Funds financial budget amounted to 2.3 million EUR, whereas the Finance Plan for 2015 foresees a reduction to 1.4 million EUR (FZOEU Finance Plan 2015).

The main support scheme for the promotion of renewable electricity generation is the feed-in tariff for "qualified producers", who meet the requirements set out in Art. 3 of the Incentive Measures Rulebook (RES Legal 2014). The feed-in tariff is financed by final consumers, who pay a Fee to Encourage the Production of Electricity from Renewable Energy Sources and CHP ("Naknada za poticanje električne energije iz obnovljivih izvora energije i kogeneracije"). Following a sevenfold increase in November 2013, the fee amounts to 3.5 Lipa/kWh (0.46 €ct/kWh). The RES contribution is a fee collected by all electric utilities and passed on to the Croatian Energy Market Operator (HROTE). After that, HROTE pays the contribution to "qualified producers" for the electricity that was fed into the network from renewable energy sources.

HROTE reports that up until November 2014 there were 1,036 funded RES projects with a power of 368 MW (HROTE November Report 2014). It is expected that another 276 projects will be completed by the middle of 2015, with an installed generation capacity of approx. 560 MW, whereat wind power plants will contribute the highest share with a total of 478 MW of installed capacity (croenergo 2014). From July 2007 until the end of 2013, HROTE provided HRK 1,200,681,267 (156 million EUR) of support to qualified producers (HROTE Financial Report 2013).

In October 2013, the government adopted the National Action Plan for Renewable Energy Sources until the year 2020. The Plan foresees by 2020 a growth (and limit) of up to 20.1% on the share of renewable sources in the final energy consumption (NAP RES 2013). While the demand for feed-in purchase agreements still surpasses all expectations, the NAP nevertheless provides that, in the years from 2015 to 2020, the installed capacities of solar and wind power shall not increase above 52 MW for PV systems and 400 MW for wind power. According to experts, these caps will significantly restrict development in these sectors (energetika-net 2013). In contrast, a relatively small amount of growth is planned in hydro power (373 MW), geothermal (10 MW) and biomass energy (125 MW). In early 2014, the quota for PV was reached within just a few days (energetika-net 2014). By 9 January 2014, the Croatian Energy Market Operator (HROTE) received a large number of offers for the conclusion of a contract regarding the purchase of electricity produced from renewables. The 2079 requests would amount to nearly 88 MW, whereas Art. 12 par. 4 Tariff System for RES-E (Tarifni sustav za proizvodnju električne energije iz obnovljivih izvora energije i kogeneracije, NN 133/13, 151/13) provided a yearly cap of only 12 MW. At the end of 2014, HROTE concluded privileged purchase agreements over the capacity of 55,6 MW with producers of electricity from photovoltaic systems. This figure implies that the quota of 52 MW for photovoltaics, which is foreseen in the

Croatian National Action Plan for RES until the year 2020, has already been reached (compare page 64, NAP RES 2013) and that HROTE cannot conclude further privileged purchase agreements on the basis of the the Tariff System for RES-E (Official Gazette, no. 133/13, 151/13, 20/14, 107/14). Insofar the National Action Plan from 2013 foresees a relatively low capacity for photovoltaic installations in comparison with other renewable energy sources (e.g. biomass, biogas) even though Croatia has a high potential also for this technology (BETTER 2013). The Development Agency of the City of Dubrovnik (DURA) pointed out that especially in the South of Croatia (e.g. Dubrovnik-Neretva County) the amortisation period for solar panels is short thanks to an above-average amount of sunshine hours (Slobodna Dalmacija 2014).

A new "Tariff System for Electricity Production from Renewable Energy Sources and CHP" (Tarifni sustav za proizvodnju električne energije iz obnovljivih izvora energije i kogeneracije - NN 133/2013) came into effect on 1 January 2014. It required several changes to the system of the calculation and the amount of the feed-in tariff. Moreover, it clarified a number of legal terms and defined requirements for skilled workers in the field of RES installations and maintenance. These changes aim to accelerate the administrative procedure and remove barriers for concluding a contract with the Croatian Energy Market Operator (HROTE) in order to become a "qualified producer." In 2014, the government abolished administrative barriers in order to simplify and ease the conclusion of electricity purchase contracts with the Croatian Energy Market Operator (HROTE). Before, the producer was obliged to submit a bank guarantee after having signed the contract in order to ensure that the planned building of power plants above 300 kW would be completed within the foreseen timeframe. In February 2014, the government extended the deadline for the submission from six to nine months from the date of signing. Finally, another amendment to the Tariff System in September 2014 abolished the requirement of bank guarantees without substitution. This measure was deemed necessary, as many investors did not succeed in obtaining a bank guarantee according to the prescribed time-related and financial terms due to the difficult economic situation (HUP 2014). As a consequence, numerous projects had been delayed even at a late stage of construction. Consequently, previously paid bank guarantees were returned to the investors. Moreover, the last amendment defined in a clearer way the cap up to which the Croatian Energy Market Operator (HROTE) can conclude power purchase agreements at an incentive.

The government announced in early 2013 that a Law on Renewable Energy Sources (energetika-net 2013b) would be adopted. This new law should summarise the hitherto isolated laws that e.g. outline the responsibilities for the implementation of policies to encourage the production of energy from RES, prescribe the maintenance of the register of RES or regulate issues of international cooperation in the field of renewable energy. Moreover, this new law would legally affirm the existing plans on renewable energies, govern the conditions and methods of the production and use of energy from RES and the system of guarantees of origin of energy. Finally, it will regulate the sustainability requirements for the use of biomass and the calculation of the impact on greenhouse gas emissions. It was reported in December 2014 that a draft proposal of the Law does exist but it has not yet been adopted (Croenergo 2014b).

4.2.4 Transport

GHG emissions as well as energy consumption from transport increased between 1990 and 2010. The proportion of transport emissions in Croatia's total emissions increased to 21% in 2012. Average emissions of newly registered passenger cars are at a level of 127.1 g CO2/km, which is close to the EU average (Eurostat, tsdtr450). Fuel taxation in Croatia is among the lowest in the EU. The road fuel excise duties on petrol are the sixth lowest among EU MSs and the excise duties on diesel are the third lowest (EEA 2014b).

Croatia levies a registration tax on vehicles, based on CO2 emissions, price and the type of fuel used (ACEA 2014). It was introduced in 2013 and is regulated in the Law on the Special Tax on Motor Vehicles („Zakon o posebnom porezu na motorna vozila", NN 15/13, 108/13).

The Croatian transport sector faces challenges due to the large volume of traffic that goes through Croatia without originating or terminating there. Also there has been an increase in number of individuals owning cars which also increases GHG emissions. In the past 20 years, the construction of highways has been given priority over the development of other means of transportation, which has

left railways relatively neglected and in need of significant investment (Večernji List 2012). Currently, the government has no Action Plan in place, which could outline an approach to tackle these challenges. The latest strategy on this matter was the now obsolete National Programme on railroad infrastructure for the period of 2008 – 2012.

In order to address the rising GHG emissions, the government implemented in 2010 a Decree on the Promotion of the Production of Biofuels for Transport („Pravilnik o mjerama za poticanje korištenja biogoriva u prijevozu"), which prescribes an increasing amount of biofuel to be mixed into petrol and diesel from the current level of 3.72 % to 10.05 % by 2020 (RES Legal 2014). This Decree was accompanied by the National Action Plan for the Promotion of the Production and Usage of Biofuels in Transport for the period of 2011 – 2020.

The producer of biofuel can obtain a special subsidy from the Croatian Energy Market Operator HROTE, if he fulfils the criteria set out in the Rulebook on the Conditions and the Procedure for Incentives for the Production of Biofuels for Transport („Pravilnik o uvjetima i postupku za ostvarivanje poticaja za proizvodnju biogoriva za prijevoz, NN 91/11). From 1 January 2014 to 30 November 2014, qualified producers of this scheme placed 34,202,866 litres of biodiesel on the market (HROTE Biofuel Amount 2014).

The Environmental Fund also offers incentives in the transport sector: In 2014, it co-financed the purchase of 400 hybrid cars and 50 electric cars with over 2.5 million EUR (energetika-net 2014b). The Finance Plan for 2015 foresees an increase to 4 million EUR for the support for cleaner transport (FZOEU Finance Plan 2015).

Probably the most severe investment barrier for a further distribution of electric cars in Croatia is the grave lack of public charging stations. With only 4 stations the Croatian infrastructure is underdeveloped in comparison to its direct neighbours or almost any other European State (Večernji List 2014). This drawback has even worse effects bearing the length of the national territory (coastal route, Slavonia) in mind, which makes car trips within Croatia very complicated.

4.2.5 Agriculture

GHG emissions from agriculture are an important source of non-ETS GHG emissions. They amounted to approximately 3.3 t CO_2eq in 2010, representing about 11% of total emissions. From 1990 to 2010, GHG emissions dropped in the agricultural sector mainly as a result of the broader Balkan conflict and due to optimisation of production processes and techniques. The level of GHG emissions dropped by 21.4 % between 1990 and 2011, which was influenced by a decrease in crop production and a reduction in cattle heads (NIR 2014). However, GHG emissions are projected to increase by 2020, due to an expected increase of agricultural land and associated mineral fertilizer outputs, as well as increased animal breeding.

Some measures are in place to reduce GHG emissions from agriculture, such as a ban on agricultural burning and the co-financing of agro-environmental measures. In addition, the Croatian state is promoting the objectives of its agricultural climate policies through the Croatian Bank for Reconstruction and Development, which supports measures that aim to protect the environment (HBOR Credit Programme). The GHG reduction potential heavily relies on the utilisation of EU structural and investment funds (NIR 2014). Since there is no comprehensive strategy in place, it is urgent that the government prepares the announced study on the possibilities of applying measures to reduce GHG emissions in the agricultural sector (Climate Change Plan 2013). However, there have been no major developments in the recent past to address expected GHG emission increases.

5 Policy progress against Country Specific Recommendations (CSRs) issued 2014

The EU Commission provides Country Specific Recommendations (CSRs) for each MS for consideration and endorsement by the European Council. The recommendations are designed to address the major challenges in relation to the targets of the EU 2020 Strategy. In the following table, the CSRs relevant for climate change and energy are listed, and their progress towards their implementation is assessed.

No CSRs have been issued in the climate and energy area.

References

ACEA (European Automobile Manufacturer's Association, 2014): Taxation Guide. Online available at: http://www.acea.be/uploads/publications/CO_2_Tax_overview_2014.pdf

BETTER (2013): Future Prospects for Renewable Energy sources in the West Balkan countries. Online available at: http://www.better-project.net/sites/default/files/D4.2%20Future%20Prospects%20for%20Renewable%20Energy%20sources%20in%20the%20West%20Balkan%20countries.pdf

CE Delft (2012): An inventory of measures for internalizing external costs in transport. Final Report. November 2012. Online available at: www.cedelft.eu/publicatie/an_inventory_of_measures_for_internalising_external_costs_in_transport/1334

Climate Change Plan (2013): The Plan for the Protection of the Air, the Ozone Layer and Climate Change Mitigation in the Republic of Croatia for the period from 2013 to 2017. Online available at: http://narodne-novine.nn.hr/clanci/sluzbeni/dodatni/429387.pdf

Croenergo (2014a): Hrvatski pogoni 867 elektrana na obnovljive izvore energije. Online available at: http://www.croenergo.eu/Hrvatsku-pogoni-867-elektrana-na-obnovljive-izvore-energije-21721.aspx

Croenergo (2014b): croenergo.eu ekskluzivno objavljuje koncept Nacrta prijedloga Zakona o obnovljivim izvorima energije i kogeneracije. Online available at: http://www.croenergo.eu/croenergoeu-ekskluzivno-objavljuje-koncept-Nacrta-prijedloga-Zakona-o-obnovljivim-izvorima-energije-i-kogeneraciji-24840.aspx

EEA (2014a): Climate and energy profiles 2014. Online available at: http://www.eea.europa.eu/themes/climate/ghg-country-profiles

EEA (2014b): Road fuel excise duties. Online available at: http://www.eea.europa.eu/data-and-maps/daviz/road-fuel-excise-duties#tab-chart_1

EEA (2014c): Tracking progress towards Europe's climate and energy targets for 2020. Online available at: http://www.eea.europa.eu/publications/trends-and-projections-in-europe-2014/

EEA (2014d): National adaptation policy processes in European countries – 2014. Online available at: http://www.eea.europa.eu/publications/national-adaptation-policy-processes

EEA (2014c): Approximated EU GHG inventory: Proxy GHG emission estimates for 2013. EEA Technical report No 16/2014. 30 September 2014

Energetika-net (2013a): Na mreži će se ubrzo naći 130 MW iz obnovljivih izvora energije. Online available at: http://www.energetika-net.com/specijali/intervju-mjeseca/na-mrezi-ce-se-ubrzo-naci-jos-130-mw-iz-obnovljivih-izvora-energije-17780

Energetika-net (2013b): Energetika na pragu ulaska u zajedničko europsko tržište. Online available at: http://www.energetika-net.com/specijali/intervju-mjeseca/energetika-na-pragu-ulaska-u-zajednicko-europsko-trziste-16627

Energetika-net (2014a): Kvota za fotonapon planula u rekordnom roku. Online available at: http://www.energetika-net.com/vijesti/obnovljivi-izvori-energije/kvota-za-fotonapon-planula-u-rekordnom-roku-18149

Energetika-net (2014b): Za poticanje energetske učinkovitosti u prometu 2014. Osigurano 20 milijuna kuna. Online available at: http://www.energetika-net.com/vijesti/obnovljivi-izvori-energije/za-poticanje-energetske-ucinkovitosti-u-prometu-2014-osigurano-20-milijuna-kuna-19970

Energy Report (2013): Annual Energy Report – Energy in Croatia 2013. Online available at: http://www.mingo.hr/public/energetika/EnergijauRH2013.pdf

Energy Strategy (2009): Strategija energetskog razvoja Republike Hrvatske (NN 130/2009). Online available at: http://digured.srce.hr/arhiva/263/55195/narodne-novine.nn.hr/clanci/sluzbeni/2009_10_130_3192.html

Eurostat, SHARES 2014, Short Assessment of Renewable Energy Sources

Eurostat, ten00065: Total environmental tax revenues as a share of GDP

Eurostat, tsdcc210: Greenhouse gas emissions by sector

Eurostat, tsdcc360: Implicit tax rate on energy

Eurostat, tsdec360: Energy intensity of the economy

Eurostat, tsdpc320: Final energy consumption by sector

Eurostat, tsdtr450: Average carbon dioxide emissions per km from new passenger cars

FZOEU Finace Plan (2015): Finance plan for the Fund for Environmental Protection and Energy Efficiency for the year 2015. Online available at: https://vlada.gov.hr/UserDocsImages//Sjednice/2014/192%20sjednica%20Vlade//192%20-%201.2.d.pdf

FZOEU Programme (2015): Yearly Public Calls Programme of the Environmental Protection and Energy Efficiency Fund - Godišnji Program Raspisivanja Javnih Poziva i Natječaja. Online available at: http://www.fzoeu.hr/hrv/pdf/GODISNJIPROGRAMRASPISIVANJAJAVNIHPOZIVAINATJECAJA02012015.pdf

HBOR Credit Programme: Program kreditiranja projekata zaštite okoliša, energetske učinkovitosti i obnovljivih izvora energije. Online available at: http://www.hbor.hr/sec1406

HROTE Biofuel Amount (2014): Količine biogoriva stavljene na tržište RH u razdoblju od 1.1.2014 do 30.11.2014 godine. Online available at: http://www.hrote.hr/default.aspx?id=239

HROTE Financial Report (2013): Izvještaj o prikupljanju i raspodjeli novčanih sredstava u sustavu poticanja. Online available at: http://files.hrote.hr/files/PDF/IZVJESTAJ_za_sustav_poticanja_OIEiK_od_01_07_2007_do_31_12_2013_HR_2.pdf

HROTE November Report (2014): Podaci Sustava Poticanja OIEiK. Online available at: http://files.hrote.hr/files/PDF/OIEIK/Mjesecni_izvjestaj_11_2014.pdf

HUP (2014): Izmjena Tarifnog sustava za proizvodnju električne energije iz OIE i kogeneracije i Ugovora o otkupu električne energije. Online available at: http://www.hup.hr/izmjena-tarifnog-sustava-za-proizvodnju-elektricne-energije-iz-oie-i-kogeneracije-i-ugovora-o-otkupu-elektricne-energije.aspx

Ministry of Construction and Spatial Planning (2013): Program for Energy Renovation of Buildings in the Public Sector for the period of 2014 – 2015 - Program Energetske Obnove Zgrada Javnog Sektora za period 2014-2015. Online available at: http://www.mgipu.hr/doc/EnergetskaUcinkovitost/Program_energetske_obnove_javnih_zgrada_2014-2015.pdf

Ministry of Construction and Spatial Planning (2014): Program on Energy Renovation for Non-Residential Commercial Buildings in the Period of 2014-2020 - Program energetske obnove komercijalnih nestambenih zgrada za razdoblje 2014. – 2020. Godine. Online available at: http://www.propisi.hr/files/file/952_629%20O%20o%20donosenju%20programa%20obnove%20komercijalnih___.pdf

Ministry of Transport (2008): National Programme on railroad infrastructure for the period of 2008 – 2012. Online available at: http://narodne-novine.nn.hr/clanci/sluzbeni/2008_03_31_999.html

NAP RES (2013): National Action Plan on Renewable Energy Sources until the year 2020: Online available at: https://vlada.gov.hr/UserDocsImages/Sjednice/Arhiva/120.%20-%202.pdf

NAPE (2014): Third National Action Plan for Energy Efficiency for the period of 2014. – 2016 - Treći nacionalni akcijski plan energetske učinkovitosti za razdoblje 2014. do 2016. godine. Online available at: http://cei.hr/upload/2014/07/3_napenu_usvojen_53d8c6525e957.pdf

National Biofuel Action Plan (2011): National Action Plan for the Promotion of the Production and Usage of Biofuels in Transport for the period of 2011 – 2020. Online available at: http://www.mingo.hr/userdocsimages/energetika/Nacionalni%20akcijski%20plan%20poticanja%20proizvodnje%20i%20kori%C5%A1tenja%20biogoriva%20u%20prijevozu%20za%20razdoblje%202011.-2020.pdf

National Programme on railroad infrastructure for the period of 2008 – 2012 („Nacionalni program željezničke infrastrukture za razdoblje 2008. do 2012. godine“, NN 31/08). Online available at: http://www.propisi.hr/print.php?id=7830

NIR (2014): National Inventory Report 2014 – Croatian Greenhouse Gas Inventory for the persiod 1990-2012. Online available at: http://unfccc.int/national_reports/annex_i_ghg_inventories/national_inventories_submissions/items/8108.php

Odyssee (2012): Energy Efficiency Policies and Measures in Croatia – Monitoring of EU national energy efficiency targets. Online available at: http://www.odyssee-indicators.org/publications/country_profiles.php

RES Legal (2014): Legal sources on renewable energy – Croatia. Online available at: http://www.res-legal.eu/search-by-country/croatia/

Sixth National Communication (2014): Sixth National Communication and First Biennial Report of the Republic of Crotia under the United Nationas Framework Convenction on Climate Change (UNFCCC). Online available at: http://unfccc.int/files/national_reports/annex_i_natcom_/application/pdf/hrv_nc6.pdf

Slobodna Dalmacija (2014): Jeftiniji solarni paneli za 55 kućanstava u Dubrovniku. Online available at: http://www.slobodnadalmacija.hr/Dubrovnik/tabid/75/articleType/ArticleView/articleId/238353/Default.aspx

Štirmer, Pečur, Milovanović, Carević (2013): Education System in the Field of Energy Efficiency. Online available at: http://croatia.buildupskills.eu/sites/default/files/Clanak_Brijuni-HDK-Stirmer-Banjad%20Pecur-Milovanovic-Carevic_0.pdf

UNDP (2010): Green Jobs in Croatia – Analysis of linking economic growth, the reduction of GHG emissions and the promotion of social development in Croatia. Online available at: http://www.hr.undp.org/content/dam/croatia/docs/Research%20and%20publications/environment/UNDP-HR-GREEN-JOBS-CROATIA-2014.pdf

UNDP (2013): Framework for a Low-Emission Development Strategy for Croatia. Online available at: http://www.hr.undp.org/content/dam/croatia/docs/Research%20and%20publications/environment/leds%20za%20net.pdf

Večernji List (2012): Velika ulaganja u željeznicu i luke. Online available at: http://www.vecernji.hr/eucionica/velika-ulaganja-u-zeljeznicu-i-luke-459163

Večernji List (2014): Traže javne punionice! Vlasnici električnih vozila nemaju gdje po 'gorivo'. Online available at: http://www.vecernji.hr/zg-vijesti/traze-javne-punionice-vlasnici-elektricnih-vozila-nemaju-gdje-po-gorivo-956907