South East Europe
Sustainable Energy
Policy

ENERGY EFFICIENCY... JUST DO IT!

Act now for warmer homes, local jobs and cleaner air!

September 2015

Lead Author
Rod Janssen

Lead Contributor
Felicia Lee (UC Berkeley)

Editor
Garret Tankosić-Kelly (SEE Change Net)

Additional Inputs
Garret Tankosić Kelly (SEE Change Net)
Ana Ranković (NGO Fractal, Serbia)
Lira Hakani (EDEN Center, Albania)
Tanja Jokić and Irma Filipović (CPI, Bosnia and Herzegovina)
Ivana Rogulj (DOOR, Croatia)
Anyla Beqa (ATRC, Kosovo*)
Sonja Risteska (Analytica, Macedonia**)
Sanja Svrkota (Green Home, Montenegro)
Zvezdan Kalmar (CEKOR, Serbia)

Cover Design
Ana Lukenda

This publication has been produced with the assistance of the European Union. The contents of this publication are the sole responsibility of SEE Change Net on behalf of the SEE SEP implementing partners and can in no way be taken to reflect the views of the EU.

Contents

South East Europe Sustainable Energy Policy Programme

With approximately 25 million potential new EU citizens in South East Europe, who are all energy consumers, energy is perhaps one of the most complex issues which is facing the region. It has inter-related and far reaching impacts on several areas, including society, the economy and the environment, particularly as South East Europe faces the imminent deregulation of the market in 2015 in a less than ideal governance environment.

The South East Europe Sustainable Energy Policy (SEE SEP) programme is designed to tackle these challenges. This is a multi-country and multi-year programme which has 17 CSO partners from across the region (Albania, Bosnia and Herzegovina, Croatia, Kosovo*, Macedonia**, Montenegro and Serbia) and the EU, with SEE Change Net as lead partner. It is financially supported by the European Commission.

The contribution of the SEE SEP project will be to empower CSOs and citizens to better influence policy and practice towards a fairer, cleaner and safer energy future in SEE.

Supported by

* According to the UN, Kosovo is "under the United Nations Interim Administration Mission in Kosovo (UNMIK) established pursuant to Security Council Resolution 1244." In this publication it is referred to as "Kosovo".

** According to the UN, the official name for Macedonia is "The former Yugoslav Republic of Macedonia". In this publication it is referred to as "Macedonia".

Main Acronyms

EBRD	European Bank for Reconstruction and Development
EC	European Commission of the European Union
ECEEE	European Council for an Energy Efficient Economy, based in Stockholm
ECS	Energy Community Secretariat, based in Vienna
EED	Energy Efficiency Directive of the EU
EnC	Energy Community
EU	European Union
GDP	Gross Domestic Product
GHG	Greenhouse gases
IEA	International Energy Agency, based in Paris
kgoe	Kilograms of oil equivalent
kWh	Kilowatt-hour
Mtoe	Million tonnes of oil equivalent
NEEAP	National Energy Efficiency Action Plan, required under the EU Energy Efficiency Directive and the previous Energy Services Directive
OECD	Organisation for Economic Co-operation and Development, based in Paris
SEE	South East Europe
TFC	Total Final Consumption
TPES	Total Primary Energy Supply
USD	US Dollars
WB	World Bank

Foreword by Maroš Šefčovič, Vice-President of the European Commission

Investment in Our Future

Energy is the lifeline for our economies. We cannot function without reliable energy supplies that are used effectively. The goal of a resilient Energy Union with an ambitious climate policy, as proposed by the European Commission at the beginning of this year, is to give its consumers – households and businesses – secure, sustainable, competitive and affordable energy.

The Energy Union does not stop at the borders of the European Union. That is why both the European Union and the Energy Community contribute to the challenges in the energy sector proactively in an increasingly closely inter-linked continent.

I welcome this opportunity to encourage South East Europe to reinforce particularly its efforts on energy efficiency. Energy efficiency is one of the key dimensions of the Energy Union. I fully concur to saying that we need to fundamentally rethink energy efficiency and treat it as an energy source in its own right.

The better use of energy while fighting climate change is both a spur for new jobs and growth and an investment in our collective future. And this Europe includes you as active partners. We are all Europeans and we must work together to find common solutions.

I can ensure you that the European Union will do all in its power to help the countries of South East Europe and the Energy Community as a whole to meet these challenges. I look forward to working with you on this objective and to following your progress.

Maroš Šefčovič

Vice-President of the European Commission

Introduction

An energy transition is underway in South East Europe (SEE). The traditional approach of relying on more energy supplies as a solution to support economic growth and social needs is unsustainable. Importing fossil fuels is expensive and unreliable. Throughout the region, energy is used inefficiently, well below the average standards of members of the European Union. This inefficiency adds costs to public finances, to businesses and to individuals. Energy efficiency must be implemented to support an effective energy transition for South East Europe.

Improving energy efficiency is seen as a catalyst to addressing many economic and social issues. It creates positive impacts for a number of stakeholders, at multiple levels of society. Aside from ensuring greater energy security, improving energy efficiency increases business competitiveness, including small and medium sized enterprises, lowers energy bills for consumers, and reduces local air pollution, among other benefits.

It is critical to understand that improved energy efficiency is not only goal in itself but a means to an end.

Improving energy efficiency is also a long-term process which implies the involvement of long-term policy decisions. As most of the countries of the SEE region are part of the pre-accession process to join the European Union[1], they will adopt many of the framework directives on energy efficiency. These directives support the valuable foundation for the long-term policy process that is needed in the energy sector, and so far, the countries in the SEE region have transposed and implemented some of them. The Energy Efficiency Directive (EED), a legislative instrument more ambitious and comprehensive than any of the other energy efficiency directives, is in the process of being adopted by the Energy Community.

The partners of the South East Europe Sustainable Energy Programme (SEESEP) are firmly concerned for the sustainable future of the region. As such, we see the importance of the region adopting the EU directives on energy efficiency and accepting to implement them in the most ambitious manner possible. Energy Efficiency is not only a piece of the larger energy strategy puzzle, but also serves as a concurrent action to achieve security of supply and economic development. We do not believe that the region should go for second best. We cannot accept the region falling farther and farther behind the European Union. Thus, we have prepared this report in advance of the adoption of the EED by the members of the Energy Community. It is our network's contention that this far-reaching directive must be implemented as ambitiously and as fully as possible and in a timely but realistic manner. Business-as-usual is not acceptable.

This report explains the importance of the EED and argues why it must have the strongest objectives and targets as possible for SEE countries.

1 Croatia joined the European Union in 2013.

The Context

There are a few facts that reinforce the importance of addressing how energy is consumed in the region:

- **Almost 50% of all energy consumed in the region is consumed by buildings**[2]. The industrial and transport sectors are also major consumers.
- **The region is a significant importer of fossil fuels and has a high import dependency**. It imports more than three times what it produces[3]
- **The potential for energy savings is high** according to Energy Community Secretariat estimates.[4] For the highest sector, buildings, the Secretariat estimates the potential to be in the range of 20% to 40% of savings.
- "**Energy efficiency offers large potential to meet future energy needs without resorting to more marginal and harmful sources of energy**. In developed countries, it is already the biggest source of 'new' energy supply."[5]
- **Energy efficiency projects create more jobs than the energy supply sector**. The American Council for an Energy-Efficient Economy estimates 20 jobs for every $1 million spent, while the energy sector only creates 10 jobs for the same expenditure.[6] Also, jobs are created in every community.
- **Over 500 million EUR unused**, "due to the lack of appropriate delivery mechanisms to link the local energy efficiency projects with the available financing."[7]
- **Prices of electricity remain very low** which provides little motivation to improve energy performance. "Despite these low prices, it is estimated that in all of the Contracting Parties at least 50% of the population spends more than 10% of their net income on energy – thus falling under the standard definition of fuel poverty.[8]
- **The SEE countries that are members of the Energy Community are obliged to transpose and implement agreed upon energy efficiency directives**.
- **National Energy Efficiency Targets are determined by limited availability and quality of the required data** in the large majority of Contracting Parties. The numbers presented can only serve as a rough indicator of the actual saving impact.[9]
- **In 2014, the Energy Community published a study which recommended weakening some of the targets**. [10] It assessed the costs and benefits of implementing four specific elements of the EED.

2 Energy Community Secretariat, *Energy Community – Tapping on its Energy Efficiency Potential*, 1 June 2015, p. 12.

3 "As a whole the Energy Community imports substantially more crude oil and oil products than it produces (18.1 mtoe import of oil versus 5.7 mtoe production in 2012). The same applies for gas, although access to gas is still limited. The share of net imports in gross inland consumption indicates the country's overall energy dependency. Whilst the average EU dependency on energy imports levels at 53%, the ratio for the Energy Community Contracting Parties amounts to approximately 32%." Source: *https://www.energy-community.org/portal/page/portal/ENC_HOME/ENERGY_COMMUNITY/Overview*

4 The ECS estimates that potential improvements are: Transport: 10%; Household sector: 10 – 35%; Public: 35 – 40%; Service sector: 10 – 30%; Industrial and commercial: 5 – 25%. They estimate that the potential yield (public buildings and private households): 805 million EUR in energy savings by 2020. ECS, *Energy Community – Tapping on its Energy Efficiency Potential*, 1 June 2015, p. 12.

5 *http://2014.newclimateeconomy.report/energy/*. McKinsey agrees in its report "Energy Efficiency: A compelling global resource, 2010.

6 *http://aceee.org/blog/2012/09/energy-efficiency-and-economic-oppor*t

7 Energy Community Secretariat, *Energy Community – Tapping on its Energy Efficiency Potential*, 1 June 2015, p. 20.

8 Ibid., p. 6.

9 Second Energy Efficiency Action Plans of the Contracting Parties, Assessment by the Energy Community Secretariat, ANNEX 4/32nd PHLG/03–03–2014, p. 5

10 DecisionWare Group, Impact Assessment of the Energy Efficiency Directive (2012/27/EU) for the Energy Community, July 2014.

Main Conclusions

The main conclusions of the review, along with an analysis of recent publications from the Energy Community Secretariat, are:

- SEE countries are planning to replace the Energy Services Directive by the 2012 Energy Efficiency Directive. It is the most comprehensive of all the energy efficiency directives, and the one that firmly establishes a complete framework for future activities in energy efficiency;
- Implementation of the three energy efficiency directives[11] by SEE countries has been generally poor and some countries appear to be struggling to meet even the minimum transposition requirements;
- SEE countries are performing significantly below the EU average regarding energy efficiency and weakening of the provisions of the EED would only increase that gap;
- There are many obligations in implementing the EED effective and there will be the need for governments to ensure effective implementation systems are in place. Given the state of implementation, government priority for energy efficiency must be questioned;[12]
- There is both bilateral and multilateral external support to provide capacity building and help the region design and implement energy efficiency measures. Yet, as shown in the study for the EnC, $500 million has been underutilised to date.
- While energy efficiency brings important benefits to a nation's economic and social well-being, those benefits are poorly understood by the governments and by the population as a whole;
- Funding that was earmarked for energy efficiency projects in the region has not been spent, largely because of the lack of creditworthiness or high cost of borrowing;

11 The Energy End-use and Energy Services Directive (commonly referred to as the Energy Services Directive or ESD), the Energy Performance of Buildings (EPBD) Directive and the Energy Labelling Directive. These will be described later in the report

12 A survey of the SEE SEP network (see Annex 2) shows that the energy efficiency directives are implemented largely because they are an obligation, not because they are seen as a fundamental element of energy policy;

Recommendations

The SEE SEP network contends that the SEE region cannot afford to lose ground to EU member states. Adopting the EED with the least possible differences in comparison to current EU Member States' policies can help to bridge this gap. The following are the recommendations to governments of the SEE Region and to other relevant stakeholders.

To SEE Governments:

The governments of the SEE region should:

- Adopt the Energy Efficiency Directive with the same 20% energy savings target as EU member states are required to achieve by 2020[13];
- Ensure adequate management and measurement systems are in place within government administrations to ensure the effective implementation of energy efficiency policies; and
- Combine bilateral and multilateral funds to support energy efficiency measures with significant state and municipal budgetary commitments;

To Other Stakeholders:

Bilateral and multilateral funders and supporters should:

- Confirm their commitment to support the effective implementation of the Energy Efficiency Directive, as well as the other energy efficiency directives through provision of technical assistance, outreach, capacity building and financial support as needed;
- Ensure their financial support complements national budget commitments rather than substituting such support; and
- Given the sizeable underutilized funds earmarked for energy efficiency, unlock these available funds by tackling the credit worthiness issues of potential borrowers innovatively through alternative structures and rates.

13 A maximum timeframe until 2023 should be allotted if implementation is also expected to compare to EU's achievement of targets. The political benefits of harmonising with the EU 2020 timeframe are most obvious for prospect accession countries, however if a maximalist approach is to be taken to the deadline then applying the same time frame as was given to EU member states of 8 years should be applied. This would set an outer limit of 2023 to reach the 20% savings target but would obviously disadvantage candidate countries.

The Policy Challenge

The countries of South East Europe realise that balanced approach to energy policy, which ensures adequate supply as well as a high priority for energy efficiency, is fundamental. Most of these countries are in the accession process to join the European Union, and thus obliged to adopt many of the key legislative elements. In this case, they are the framework directives on energy efficiency. Being part of the process proves to be a valuable asset because EU Member States are also in the midst of finding the right solution for energy policy, balancing the necessity for greater energy security while at the same time ensuring that energy consumption can be managed in a way to maximize benefits to its economies. These include moving to a low carbon economy, reducing imports, improving competitiveness and encouraging innovation.

In this way, the SEE region benefits from the lessons learned by the European Union. The energy efficiency legislative framework serves as a strong reference point because of its comprehensive nature and high global regard.

This year, the members of the Energy Community Treaty will decide on how to implement the Energy Efficiency Directive (EED) that was adopted by the EU in 2012. This directive is designed to fill the policy gaps to ensure that its 2020 energy savings target is met. The directive provides the measures to implement, as well as the reporting requirements and targets.

There is concern that the obligations under the EED will be weakened within the Energy Community to reflect the low priority for energy efficiency in the region[14]. This would be unfortunate. The EED provides an opportunity that this report will focus on.

There is an important reason why the EU gives energy efficiency a high priority. Recently published analysis shows the range of benefits from increased energy efficiency[15], acquiring another name, *First Fuel*. Improved energy efficiency, in particular, addresses innovation, sustainable growth, job creation, competitiveness, climate change mitigation and energy security.

It would be a colossal policy mistake if the countries of the South East Europe do not seek out these benefits by avoiding the priority which energy efficiency needs. It would be a mistake to turn back the clock to maintain business as usual. It would also be a mistake if South East Europe has less ambitious targets than the European Union. Targets which are less ambitious widen the gap and, the countries of South East Europe will never reach the same level of energy performance.[16] Falling further behind must be a major concern to all decision makers and consumers in the region. SEE countries need to close the gap, not let it increase due to negligence.

This report explains the main elements of the EU's Energy Efficiency Directive and clarifies its misconceptions. The report also explains why it is important to have the countries of South East Europe maintain the same level of ambition within EU. Though improved understanding of the obligations, decision makers and consumers will be prepared to accept that these obligations are not a burden but an opportunity that must be taken.

The SEE region can also benefit from the lessons learned from Croatia, the latest new Member State of the European Union and one of the countries covered by the SEESEP project. While Croatia is no longer following the Energy Community Treaty process, information about how Croatia has implemented the Energy Efficiency Directive will be described in this report as appropriate.

14 DecisionWare Group, *Impact Assessment of the Energy Efficiency Directive (2012/27/EU) for the Energy Community*, July 2014.

15 International Energy Agency, Capturing the Multiple Benefits of Energy Efficiency, IEA/OECD, Paris, 2014.

16 Figure 5 below shows how much higher the energy intensity is in the SEE region compared with the EU average.

The Policy Context

Energy is important to the countries of South East Europe. Energy is needed for all economic and social activities. Energy is needed for domestic purposes, from cooking to cleaning to heating. Energy keeps factories operating, allows for mobility and is essential for all the services a modern society needs. Despite this reliance on the availability of energy, global paradigms are shifting from exploiting endless supplies of energy to ensuring that energy is used efficiently through low-carbon options.

This leads to a wide-ranging and lengthy discussion on finding the right balance in energy policy. The reflex reaction to a crisis was to simply supply more energy. That is no longer an option for many reasons: cost, trade balance, energy security, carbon emissions, etc.

The countries in the SEE region have had a range of energy efficiency policies and programmes for many years.[17] In recent years, this has included adopting EU framework directives as part of the pre-accession process and to ensure that the individual countries have a comprehensive and robust foundation for energy efficiency. The EU's approach is recognised globally for its thoroughness and impact.

The implementation of the EU directives on energy efficiency has been undertaken through the Energy Community Treaty. The importance of adopting the framework directives on energy efficiency from the EU has grown in importance. Today, the SEE region is implementing three of the EU directives on energy efficiency, as shown in the table 1.

TABLE 1: Acquis on Energy Efficiency

Directive	Implementation Deadline
Directive 2006/32/EC on energy end-use efficiency and energy services	31 Dec 2011
Directive 2010/30/EU on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products	31 Dec 2011
Directive 2010/31/EU on the energy performance of buildings	30 Sep 2012

SOURCE: Energy Community Secretariat

These activities must be seen under the EU accession process as more than an institutional commitment to meet the energy efficiency obligations under the *acquis*. The commitment which improves the usage of energy results in tangible and measureable benefits, both social and economic, which needs to be seen in a national context. The listed measures addresses economic development concerns through indirect impacts which affect areas from industrial development to health and fuel poverty. Importantly, improving energy efficiency ensures that there will be adequate and affordable supplies of energy that are required to heat homes, operate businesses and progress society forward. Improved energy efficiency needs to be interpreted as a positive element of government policy as its benefits outweigh the costs in almost all cases.

Traditionally, and presently in many areas of SEE institutions, decision-makers were conditioned to believe in increased energy supply as the centerpiece of energy policy to meet economic development and social goals. This approach has grown unsustainable and the logic has changed. A balanced approach, based on addressing both energy supply and energy demand, is necessary.

17 The first full examination is available in a publication from the Energy Charter Secretariat, the International Energy Agency and the Danish Energy Agency, *Energy Efficiency Initiative*, Volumes 1 and 2, OECD, 1997. There were further reviews taken by the Energy Charter Secretariat in 2003 and 2007 as part of the Environment in Europe Ministerials that gave a special emphasis to energy efficiency.

The *acquis* related to energy efficiency reflects how the European Union prioritises this approach.

There are many important reasons why improved energy efficiency, by decoupling economic growth and energy consumption, has a positive impact on our societies. This recent figure from the European Commission shows that improved energy efficiency plays a fundamental role in the transition towards a more competitive, secure and sustainable energy system.

The countries of South East Europe are currently deliberating on how to adopt the 2012 Energy Efficiency Directive. It is a wide-ranging framework directive that replaced the 2006 Energy Services Directive (adopted by SEE countries) and the 2004 Cogeneration Directive (not required to be implemented by SEE countries). The elements of the Directive were approved to help ensure that the EU's 2020 target for energy savings is achieved. The Directive also introduces new targets to help in the entire process.

To be as ambitious as possible, it is important to have a better understanding of the Energy Efficiency Directive to appreciate the full range of benefits that come with its effective implementation.

The EU's long-term climate and energy targets

The EU climate and energy targets for 2020, known as the "20–20–20" targets, set three key objectives for 2020:

- A binding 20% reduction in EU GHG emissions from 1990 levels;
- A binding requirement to raise the share of EU energy consumption produced from renewable resources to 20%; and
- An indicative 20% improvement in the EU's energy efficiency compared to a 2007 modelling baseline.

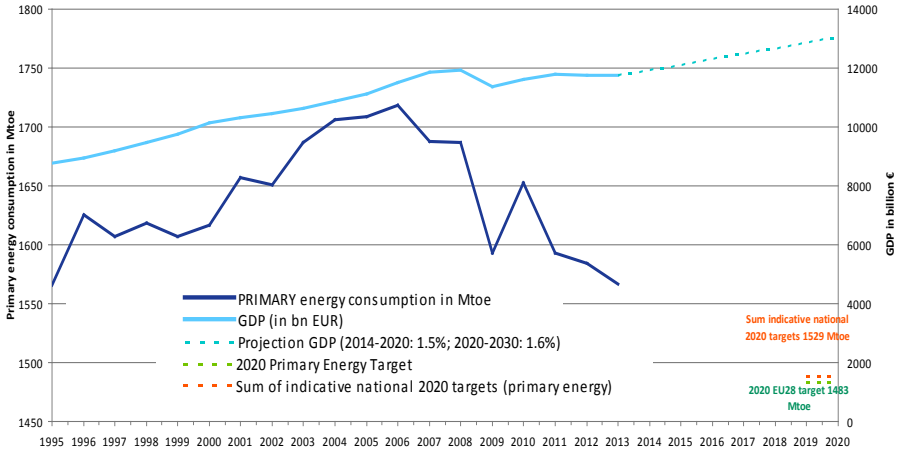


FIGURE 1: Energy efficiency of the EU economy is steadily increasing; and economic growth is being decoupled from energy consumption

SOURCE: *Presentation by Paul Hodson, DG Energy, June 18, 2015*

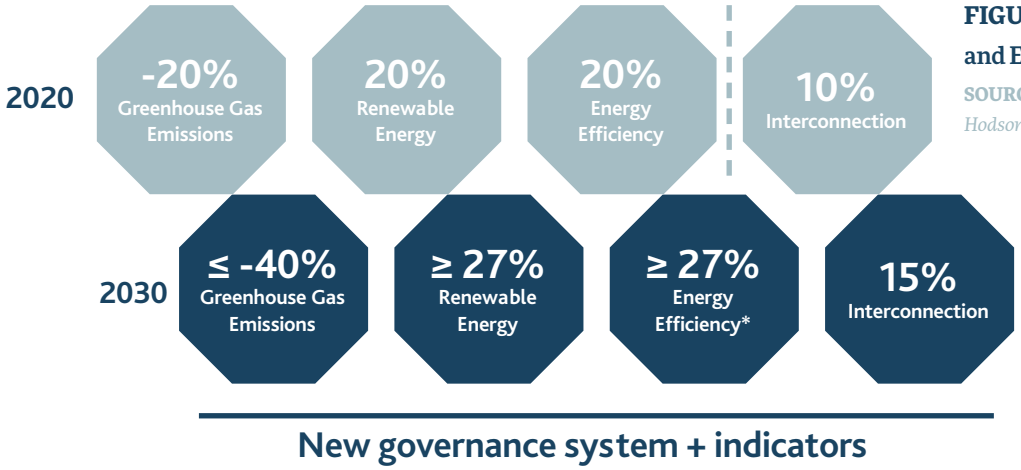


FIGURE 2: 2030 Climate and Energy Framework

SOURCE: *Presentation by Paul Hodson, DG Energy, June 18, 2015*

* To be reviewed by 2020, having in mind an EU level of 30 %

Note that the target for energy efficiency is an indicative target and not binding, as it is for both GHG emissions reductions and for increasing the share of renewable energy.[18]

The EU energy efficiency policy framework consists primarily of a series of energy efficiency directives. The most recent is the 2012 Energy Efficiency Directive (Directive 2012/27/EU) that is the first directive to directly address the gap to achieving the 2020 energy savings target and covers a wide range of energy efficiency measures in all sectors (other than transport, that is dealt with separately).

The European Council decision on the 2030 targets was, in large part, based on the Commission's 2030 Communication from January 2014 and the new July 2014 Communication on energy efficiency. In the July Communication, the importance of improved energy efficiency was duly expressed. In this Communication the Commission proposed a target of a 30% improvement in energy efficiency by 2030. This was chosen from a range of options from 25% to 40%. Council in October 2014, however, decided on a non-binding target for energy savings of at least 27% for 2030. This will be reviewed before 2020 to see whether the target should be increased.

The overall framework for 2030 can be seen in the following diagram. This shows how energy efficiency fits within the total strategy for climate and energy policies.

All of the EU's energy efficiency directives have specific roles in addressing energy efficiency in the various end-use sectors. However, it is the Energy Efficiency Directive that was designed to put all the pieces together for the EU to meet its long-term goals.

The next section explains the main elements of the EED.

18 The European Council was reluctant to adopt a binding target for energy efficiency, in part because of the difficulty of measuring improvements. The European Council for an Energy Efficient Economy published an excellent discussion paper on targets. See Jean-Sébastien Broc, *A binding target for sustainable energy demand: Why and how?*, eceee, May 2014.

The Main Elements of the Energy Efficiency Directive

The Energy Efficiency Directive is the most comprehensive EU directive related to energy efficiency in Europe. It marks the first time that it includes both elements of improving energy efficiency from the beginning to end of the energy efficiency pipeline, influencing both energy demand as well as energy supply. It provides a set of binding measures to help EU Member States meet their energy efficiency targets by 2020. The one area it does not include is the transport sector.

The following diagram provides an overview of how the EED was designed. Notice that it contains sectoral and general measures, target setting, and monitoring and reporting.

The important features of the EED are listed below. The EED is linked to other EU energy efficiency directives in many areas. For instance, the EED sets ambition levels for building renovations and complements the Energy Performance of Buildings Directive. Note that the dates provided were for EU Member States and these dates would be set for the transposition of the EED Directive in the SEE region, depending on the actual adoption of the directive.

Energy savings targets

Targets are an important aspect of the EED because the Directive is a leading element in achieving the EU's 2020 target for a 20% energy savings.

There are three different types of targets in the EED:

- Article 1 states that the "Directive establishes a common framework of measures for the promotion of energy efficiency within the Union in order to ensure the achievement of the Union's 2020 20% headline target on energy efficiency."
- Article 3 requires member states to set an indicative target. The article states that "each Member State shall set an indicative national energy efficiency target, based on either primary or final energy consumption, primary or final energy savings, or energy intensity.
- Article 7 for the Energy Efficiency Obligation sets a requirement for annual savings. "That target shall be at least equivalent to achieving new savings each year from 1 January 2014 to 31 December 2020 of 1.5 % of the annual energy sales to final customers of all energy distributors or all retail energy sales companies by volume, averaged over the most recent three-year period prior to 1 January 2013."

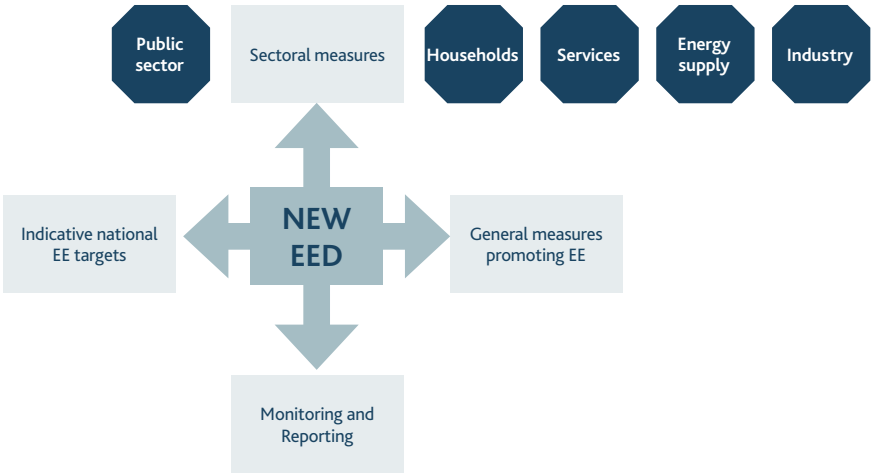


FIGURE 3: Key Features of the Energy Efficiency Directive

SOURCE: *DG Energy*

Renovation of Buildings

- The EED requires MS to establish a long-term strategy for investment in the renovation of residential and commercial buildings with the aim of improving their energy efficiency.
- Public bodies specifically will be required to lead by example in ensuring that 3% of the total floor areas of heated and/or cooled buildings owned and occupied by central government are renovated each year to meet minimum energy performance requirements (or take other cost-effective measures in other eligible buildings owned and occupied by central government). Inventories of central government buildings must be organized by the Member State that will opt for renovations.

Energy Suppliers and Regulatory Authorities

- Each MS is required to set up an energy efficiency obligation scheme (or an equivalent) to ensure that certain energy distributors and retail energy sales companies achieve a cumulative end-use energy savings target by the end of 2020. As an alternative, MS can choose to take alternative policy measures to achieve an equivalent amount of energy savings.
- The EED requires MS to ensure that national energy regulatory authorities pay due regard to energy efficiency in carrying out their regulatory tasks.

Energy Audits and Reporting

- Each MS is required to promote energy audits and all large enterprises will be subject to mandatory independent and cost effective energy audits to be undertaken at least every four years. Small and medium sized enterprises and enterprises implementing an energy or environmental management system will be exempt.
- If MS consider their national level of technical competence and reliability in energy efficiency is insufficient, they are required to ensure that certification, accreditation and equivalent schemes are available for providers of energy services, audits, managers and installers by December 2014.

Promotion of Cogeneration and District Heating and Cooling

- By 2015 MS are required to carry out and notify the European Commission about their comprehensive assessment of the potential for high efficiency cogeneration (the generation of electricity and useful heat jointly) and efficient district heating and cooling.
- MS are required to implement policies that encourage taking into account at both local and regional levels the potential for efficient heating and cooling systems, to take measures to ensure development of such infrastructure and to undertake a cost benefit analysis to identify the most resource and cost efficient solutions to meet heating and cooling needs.

Barriers to Energy Efficiency

- Where appropriate, MS are required to take measures to remove regulatory and non-regulatory barriers to energy efficiency. These can include providing incentives, repealing or amending legal or regulatory provisions, or adopting efficiency guidelines.
- MS are required to facilitate the establishment of financing facilities, or use of existing ones, for energy efficiency improvement measures.

Monitoring MS Progress

- Each MS is obliged to report to the Commission annually on progress towards its 2020 indicative national energy efficiency target.
- With a view to achieving such targets, from 2013, by 30 April each year MS are required to report on their progress achieved, and by 30 April 2014 they are required to submit National Energy Efficiency Action Plans (which they were also required to prepare under the 2006 Energy Services Directive).

Other measures

The EED also contains several other measures including:

- Public sector obligation to purchase energy efficient products, services and buildings;
- Improvements to metering and billing data;
- Requirements to promote energy services markets.

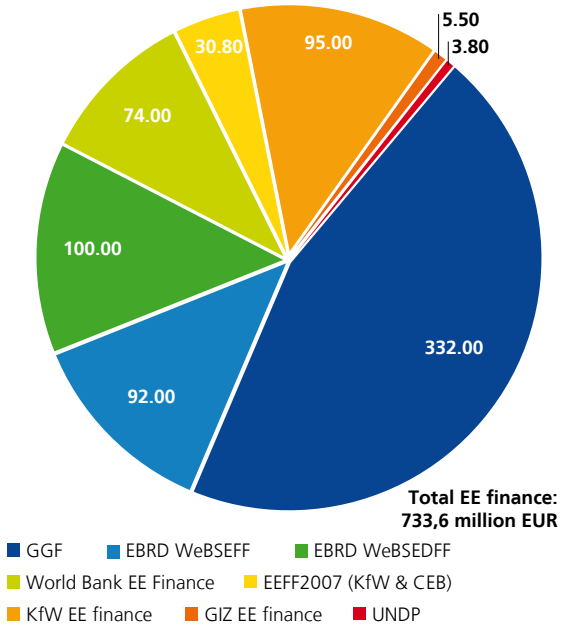
The obligations on EU member states to implement the EED are provided article by article in Annex 1. SEE countries would have similar obligations with a timetable set after the decision to adopt the EED. These obligations require a rigorous implementation process to ensure that objectives are met.

Who is helping the SEE region implement its energy efficiency policies

It is important to recognise that the region receives significant support for its energy efficiency activities from multilateral and bilateral organisations. These are in the form of capacity building, technical assistance, and financial assistance. The Energy Community, in its June report on energy efficiency, details the contribution from these organisations.[19] Figure 4 provides an overview of the energy efficiency financing facilities in the Western Balkans.

FIGURE 4: Energy Efficiency Financing Facilities in the Western Balkans Q1 2015 (million EUR)

SOURCE: *Energy Community Secretariat, Energy Community – Tapping on its Energy Efficiency Potential, June 1, 2015, p. 20*



Why SEE region needs to be serious about energy efficiency

The June 2015 Energy Community report on energy efficiency provides the following graph. This shows how much higher the energy intensity is for the SEE region than for the EU as a whole (shown by the yellow line). While this is not always the best indicator of improvements in energy efficiency, this intensity indicator shows the gap between the SEE region and the EU. Considering the energy efficiency policy package that EU member states are implementing, this gap will increase if the SEE region does not take a more ambitious approach.

Showing energy intensity using purchasing power parity shows that only Albania is below the EU 28 average.[20]

The following section explains why it is essential for the SEE Region to take a pro-active approach to implementing the EED and the other relevant energy efficiency framework directives.

Croatia's energy efficiency programmes, similar to those of other countries in the region were initially funded by international organisations. The longest lasting programme was executed by UNDP, known as "Removing Barriers to Energy Efficiency" and lasted for nine years. While it is imperative that these projects are sustained by national and municipal funding, international assistance can indeed provide strong momentum and support to help implement the measures of the EED.

Supporting Organizations:

- World Bank Energy Efficiency Project (GEF) 2003 – 2009
- UNDP "Removing Barriers to Energy Efficiency in Croatia" 2005–2013 (Used to address both public and household sectors)

19 Energy Community Secretariat, *Energy Community – Tapping on its Energy Efficiency Potential*, June 1, 2015, pp. 21–46.

20 The Energy Community report does not explain why Albania is below the EU 29 average using purchasing power parity.

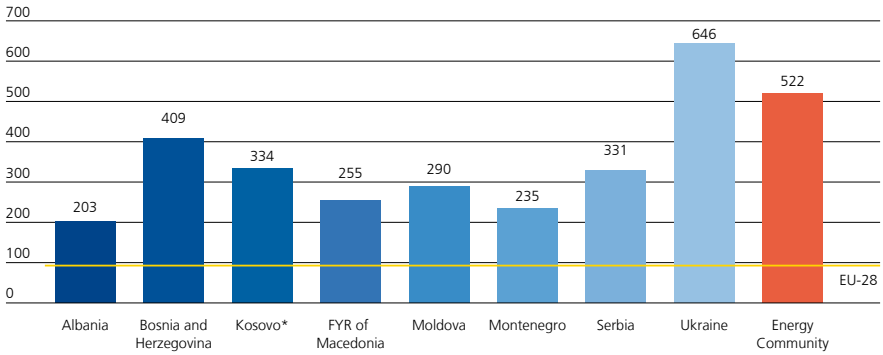
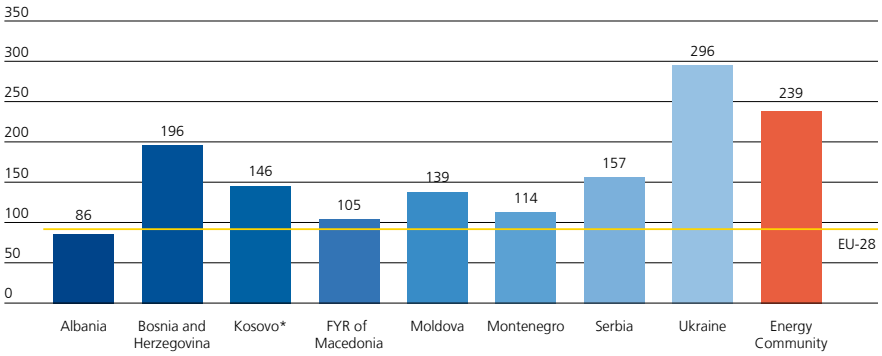


FIGURE 5: Energy Intensity of the Economy in 2013 (Gross inland consumption/gross domestic product in ktoe/1000 USD)

SOURCE: *Energy Community Secretariat, Energy Community – Tapping on its Energy Efficiency Potential, June 1, 2015, p. 11.*

FIGURE 6: Energy Intensity of the Economy in 2013, adjusted to PPP

SOURCE: *Energy Community Secretariat, Energy Community – Tapping on its Energy Efficiency Potential, June 1, 2015, p. 12.*



One outcome of UNDP's project in Croatia was the development and implementation of the methodology of Energy Management System (EMS) that covers almost all public facilities in Croatia. The EMIS (Energy Management Information System) database is software developed in Croatia which contains technical information about each registered public building including static information such as general construction and energy performance of the building, as well as dynamic data covering consumption of energy and water according to the invoices of suppliers on a monthly basis and the actual spending on a weekly or daily basis. Collection of data includes both automatic and manual methods. This tool is being continuously being improved.

By 2014:

- Nearly 8500 public buildings included in the database, comprising more than 85% of all public sector buildings in Croatia
- 1.1 million received energy and water invoices
- 4.6 million direct meter readings

In order to measure achieved savings, the Center for Monitoring Business Activities in the Sector of Energy Investments (CEI) cooperated with the German Society for International Cooperation (GIZ) and developed a System for measuring and verifying energy savings (SMiV). Public administration, companies with energy performance contracts and the Fund for Environmental Protection and Energy Efficiency are obliged to enter implemented measures into the database. This is a prerequisite for systematic and consistent measurement of savings achieved at the national level. Metrics are critical to measure progress, increase transparency and set benchmarks for continued development towards SEE's energy future.

Some of the lessons of Croatia's experience have begun transfer to Energy Community Contracting Parties, Bosnia and Herzegovina and Serbia.

Why Energy Efficiency Matters

This is a short review of the main benefits as analysed by the International Energy Agency and others. This makes a convincing argument for greater energy efficiency. The benefits were briefly introduced previously showing that economic growth has been decoupled from energy consumption in Figure 1.

A careful review of the European Commission's Impact Assessment accompanying the Communication shows that taking the level of ambition beyond a 30% improvement could bring many more benefits that are important to the EU economy and energy sustainability that will be lost otherwise. This paper highlights that the Commission's *own* analysis shows that greater ambition will bring to the EU:

- Significantly lower total energy consumption
- Significantly lower net energy imports, thus improving overall energy security
- Important shift in investments to the residential and tertiary sectors
- Positive impact on economic growth
- Important and positive employment impact throughout all of the EU
- Greater environmental benefits
- Important benefits to lower fuel poverty together with a range of health benefits
- Improved competitiveness for Europe's businesses.

Sometimes it is forgotten *why* we are trying to achieve energy efficiency improvements. Energy efficiency is not an end in itself, but a means to an end. It is a government policy area that is essentially integrated into many economic and social areas, including health, employment, competitiveness, wellbeing, resource efficiency and waste management, to name just a few.

It is instructive to take a fresh look at the full range of benefits of improved energy efficiency. This is assuming that energy efficiency can be improved in an ambitious fashion, as is the position of ECEEE[21]. The track record shows that energy efficiency can deliver – and has delivered, as shown in the graph on Figure 7.

The graph shows that the avoided energy through improved energy efficiency is equal to about 65% of total final consumption in the IEA region[22]. Since 1974, ener-

21 eceee, *What we will gain from ambitious energy efficiency goals in the EU: Let's not waste energy – or an opportunity*, December 2014.

22 The IEA is an autonomous organisation that works to ensure reliable, affordable and clean energy for its 29 member countries and beyond. For more information see: http://www.iea.org.

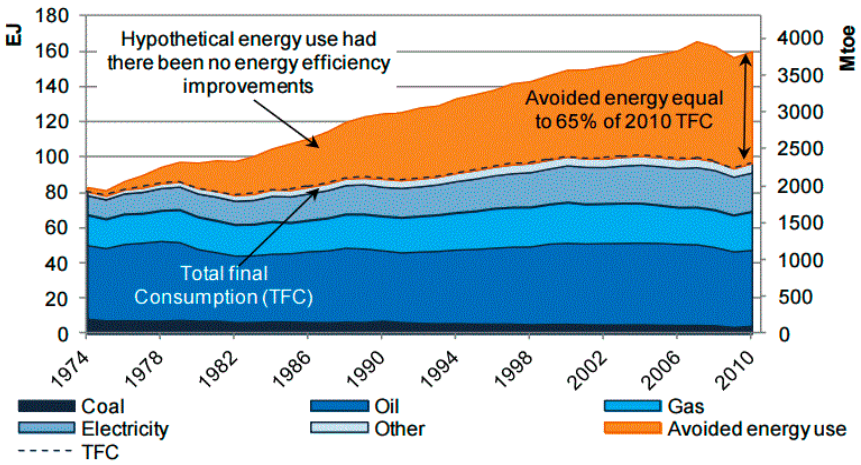


FIGURE 7: IEA's First Fuel

SOURCE: *Plenary presentation by Robert Tromop, International Energy Agency, to eceee Industrial Summer Study, June 2014, http://www.eceee.org/industry/speakers*

FIGURE 8: The Multiple Benefits of Energy Efficiency

SOURCE: *IEA, Spreading the Net, The Multiple Benefits of Energy Efficiency Improvements, OECD, 2012.*

gy efficiency alone has contributed more to total need of energy services than any other form of energy supply. No traditional fuel comes close to matching that. While once dubbed the 'fifth fuel' by many, the IEA has now dubbed it the 'first fuel' and now that concept is being used within the EU's Energy Union strategy.

Understanding the many benefits

Individuals in homes or businesses, as well as economies and society as a whole, benefit significantly from improved energy efficiency. For years experts have been analysing these benefits from improved energy efficiency, and yet they are still poorly understood. Most recently, the IEA assessing the range of positive impacts related to energy efficiency measures. The following figure shows the benefits that the IEA identified in 2012 which are both directly and indirectly related to energy. The impacts concern energy policy, economic and social policy, environmental policies and macro-economic policy. For illustrative purposes, Figure 8 lays out examples of these categories. While this depiction is not exhaustive, and specific benefits for each of the end-use sectors can be distinguished (buildings, transport, industry, etc.), the figure demonstrates the comprehensive outcomes of energy efficiency measures. The Commission's impact assessment can help indicate effective strategies of implementation and prioritization of resources based on needs to be fulfilled.

How the SEE Region is Currently Implementing Energy Efficiency

After envisioning the range of future benefits based on the EU's EED and framework, it is important to understand the current landscape of the region. In June 2015, the Energy Community published a report on how the countries of the Energy Community are implementing their energy efficiency obligations.[23]

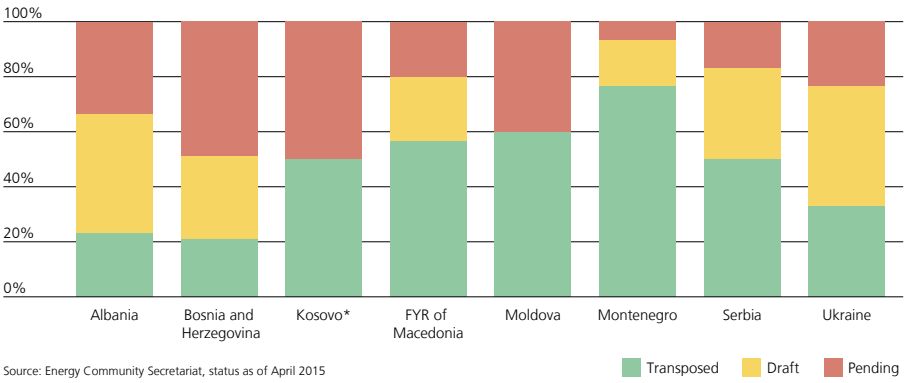
Legislation

There are three EU directives on energy efficiency that SEE countries were expected to transpose into national legislation. The following three figures from the Energy Community Secretariat summarise the progress made in implementing these EU directives.

The figures 9, 10 and 11 show a mixed picture of progress. The Energy Services Directive was to be implemented by December 2011, but the results show that much is still pending. This means the countries are almost four years late in meeting the deadlines.

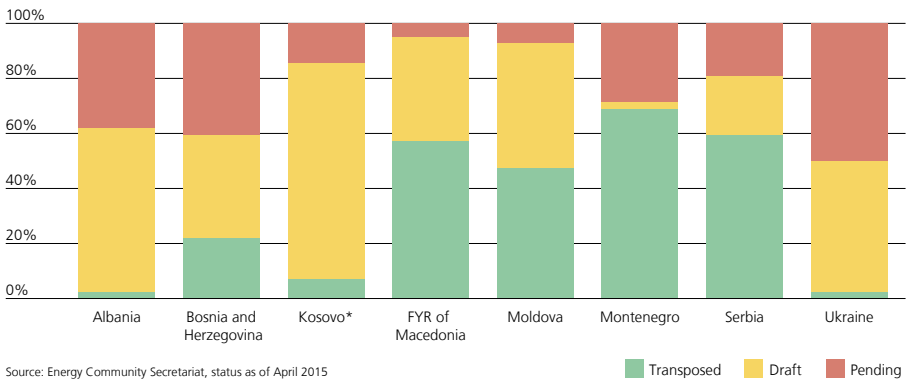
The Energy Performance of Buildings Directive was to be implemented by September 2012. The results show that three of the six countries in the region have made reasonable progress in transposing the directive, but still have more to do in regards to implementation.

The Energy Labelling Directive was also to be implemented by December 2011. While the results are better, they are still incomplete.



Source: Energy Community Secretariat, status as of April 2015

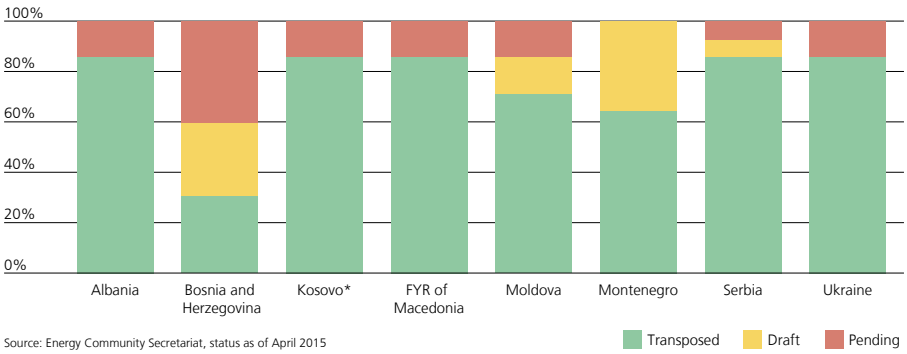
FIGURE 9: Transposition of the *Energy Service Directive*



Source: Energy Community Secretariat, status as of April 2015

FIGURE 10: Transposition of the *Energy Performance of Buildings Directive*

23 Energy Community Secretariat, *Energy Community – Tapping on its Energy Efficiency Potential*, June 1, 2015



Source: Energy Community Secretariat, status as of April 2015

FIGURE 11: Transposition of the *Energy Labelling Directive*

To get a better understanding of the progress made, SEESEP undertook to survey the main elements of policies and programmes in the countries of the SEE region. These are provided in Annex 2.

National Energy Efficiency Action Plans

The 30 June 2013 marked the deadline for the draft second Energy Efficiency Action Plans (EEAPs).

TABLE 2: Status of Second Energy Efficiency Action Plans

Second Energy Efficiency Action Plans	Published on
FYR of Macedonia	12 May 2014
Montenegro	17 Mar 2014 (after being adopted by the government in November 2013)
Serbia (in Serbian)	03 Dec 2013
Kosovo	01 Jun 2013

SOURCE: *Energy Community website [https://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Instruments/Energy_Efficiency/EEAPs]*

The Energy Community Secretariat described the results as follows[24]:

The final energy savings for 2012 are approximately 0.259 Mtoe in 2nd EEAPs of six Western Balkans Contracting Parties. This figure is about 7% less than the

TIMELINE OF TARGETS

Being a member of the EU, Croatia is bound to meet the EU's 20% energy savings target.

Fund for Environmental Protection and Energy Efficiency founded in 2003.

- First NEEAP Prepared 2007, Adopted 2010 Target of 19.77 PJ savings for 2016 1st target set for 2010 of 6.59 PJ Realised savings amounted to 6.43 PJ
- Second NEEAP Prepared in 2011, Adopted 2013 Croatia kept the same national indicative savings target of 19.77 PJ
- Third NEEAP 2014–2016 was published in July 2014 and was the first one upon being an EU member state

  According to the 3rd NEEAP, the national target for energy savings pursuant to Article 7 of the EED for the period from 1 January 2014 to 31 December 2020 is 1.938 PJ per year, or 54.250 PJ in total, 32.094 PJ of which is planned to be achieved through 9 alternative policy measures.
- ZENU – Act on Energy Efficiency

  This act is in agreement with directive 2012/27/EU and aims to achieve savings of direct and primary energy to EU EE levels of 20% by 2020

24 Second Energy Efficiency Action Plans of the Contracting Parties, Assessment by the Energy Community Secretariat, ANNEX 4/32nd PHLG/03–03–2014, p. 5

cumulative intermediate energy savings targets, as set by the Contracting Parties in their 1st EEAPs (0.278 Mtoe). The intermediate savings levels range from 1.1% of reference consumption in Bosnia and Herzegovina, to 3% in Kosovo*, and 4% in Montenegro (where calculations were based mostly on top-down indicators, which may be not be reflecting only the impact of energy efficiency measures from EEAP).

Total final energy savings of around 1.527 Mtoe are expected for 2018 from energy efficiency improvement measures, 1% higher than the sum of 9% overall indicative energy savings target (1.512 Mtoe) officially accepted by all Contracting Parties.

When evaluating the savings, the Contracting Parties used a harmonised model, with top-down and bottom-up methodologies, and a template for reporting of the first EEAP, jointly developed with the valuable support provided by GIZ Open Regional Fund – Energy Efficiency. However, due to the limited availability and quality of the required data in the large majority of Contracting Parties, the numbers presented can only serve as a rough indicator of the actual saving impact.

TABLE 3: EEAP final energy saving targets and forecasts for 2018 and declared savings for 2012

Contracting Party	2012 target final energy savings		2012 achieved/calculated final energy savings		2018 overall final energy savings target	
	Mtoe	% of reference consumption	Mtoe	% of reference consumption	Mtoe	% of reference consumption
Albania	0,027	1,50%	0,023	1,30%	0,168	9%
Bosnia and Herzegovina	0,016	0,50%	0,035	1,10%	0,287	9%
Macedonia	0,066	4%	0,042	2,60%	0,151	9%
Kosovo	0,031	3%	0,032	3,10%	0,109	9%
Montenegro	0,013	2%	0,025	4%	0,059	9%
Serbia	0,125	1,50%	0,102	1,20%	0,752	9%

Albanian 2nd EEAP(first draft) presents only basic (descriptive) information and doesn't include information about energy savings achieved in 2012 and expected in 2018 from energy saving measures (these are taken from the GIZ ORF-EE MVP project). 2018 figures shown represents the 9% ESD indicative target.

Based on the draft 1st EEAP and reporting on 1st EEAP achievement (BU approach) conducted under GIZ ORF - EE project in June 2013. 2018 figure represents the 9% ESD indicative target

Montentgro EEAP has shown large differences between the results of top-down and bottom-up methods due to the missing energy consumption data and underdeveloped statistics. This table presents the interim savings calculated with top-down methods

How Energy Efficiency is Being Implemented in Croatia

Capacity Building

UNDP provided the initial funding for Croatia's EE implementation. Capacity building took the form of training programmes, advocacy, and audit certifications led by local and international EE experts. Capacity building is crucial in contributing to a sustainable feedback loop that is not isolated only to energy efficiency. It also supports job creation and opportunities for innovation among other benefits.

- 29.000 people have received training through various workshops
- 1200 energy audits resulting in more than 260 investment projects

Energy Efficiency Market Development

HEP ESCO[1] is an energy service company, newly created to pipeline a sustainable market for energy efficiency goods and services. In 2007, it won the best European ESCO award for the activity they generated in regard to energy efficiency investments. A major component which provided this impact resulted from an International certification contributed to the overall impact.

- HEP –ESCO received international certification
- 3rd and 4th year of operations brought project investments to a combined total of 25 million USD
- In addition to numerous projects implemented in Croatia and the region, HEP ESCO has participated in key international development projects of the EU's Intelligent Energy Europe Programme. By the end of 2009, potential projects had medium or high likelihood of financing, which represented a potential of another 20 million USD, for a combined total of 45 million USD

Municipal support

Initially, only counties were obliged to plan energy efficiency measures through 3-year programmes and annual plans. Now, there are 3-year action plans and cities with more than 35.000 inhabitants make plans as well.

- 147 City Mayors signed an Energy Charter which commits to implementing EE and promoting RES
- 85 cities, 16 counties, and ALL ministries have Energy Efficiency divisions
- 60 cities and municipalities joined the Covenant of Mayors.

National Energy Efficiency Authority

Energy efficiency tasks are assigned to an existing institution – the Centre for Monitoring Business Activities in the Energy Sector and Investments. Additionally, there are three ministries, which are involved in energy efficiency in Croatia. The focus of EE across these ministries varies, which provides an opportunity for greater focused implementation as well as cross-sector synergies that are currently not being taken advantage of. The Ministry of Economy is responsible for complete energy policy, the Ministry of Construction and Physical Planning is responsible for building sector, and the Ministry of Nature and Environmental Protection is responsible for the reduction of greenhouse gases. While there are demonstrated drawbacks to not establishing an institution specifically organising EE initiatives and legislation, it cannot be avoided that Energy Efficiency remains a cross-sectoral issue with opportunities for collaborations.

1 For more information, see *http://www.hep.hr/esco/en/aboutus/default.aspx*

A Final Note

Based on the information presented in the report, a major achievement gap is visible between European Union Member States and Contracting Parties. Current National Energy Efficiency Action Plans of Contracting Parties establish energy efficiency targets of 9% by 2018 whereas MS have adopted goals of 20% by 2020 and 27% reductions by 2030[1]. The necessity of an effective, transparent framework for Contracting Parties to implement and maximise their achievement of existing energy efficiency potentials (20% – 40% savings)[2] is integral to security of energy supply, economic development, and progress towards European Union accession.

The adoption of the Energy Efficiency Directive by the Energy Community establishes a legal obligation which requires South East Europe countries to implement energy efficiency measures based on a framework which supports tangible and quantifiable impacts towards meeting 20% energy reduction targets by 2020. In doing this, South East European governments will be held accountable for achieving energy and climate targets, while also further aligning policy objectives towards the European Union standards and goals.

Lastly, the report discusses the wide range of benefits that result from implementing the measures of the Energy Efficiency Directive. Because the Directive strategically addresses energy efficiency opportunities at all points of the energy sector from generation to end consumer, it supports country targets and properly distributes the benefits to citizens- – society's most important stakeholders at the end of the pipeline. The fair distribution of benefits remains a challenge for South East European countries, which amplifies the importance for state and municipal governments to implement the Energy Efficiency Directive as a priority. Supporting civic inclusion in the development of national energy strategies is a requirement towards setting the tone for a sustainable South East Europe.

1 *http://ec.europa.eu/clima/news/articles/news_2014102401_en.htm*

2 Energy Community Secretariat, *Energy Community – Tapping on its Energy Efficiency Potential*, 1 June 2015, p. 12.

Annex 1 – Overview: Main Obligations to Implement the Energy Efficiency Directive

Specific Obligations to Member States	Article in Directive	Action Required
Energy efficiency targets	Article 3	Each Member State shall set an indicative national energy efficiency target, based on either primary or final energy consumption, primary or final energy savings, or energy intensity. Member States shall notify those targets to the Commission
Exemplary role of public bodies' buildings	Article 5	Each Member State shall ensure that 3 % of the total floor area of heated and/or cooled buildings owned and occupied by its central government is renovated each year to meet at least the minimum energy performance requirements.
		Member States opting for the alternative approach shall notify to the Commission, by 31 December 2013, the alternative measures that they plan to adopt, showing how they would achieve an equivalent improvement in the energy performance of the buildings within the central government estate.
Purchasing by public bodies	Article 6	Member States shall ensure that central governments purchase only products, services and buildings with high energy-efficiency performance, insofar as that is consistent with cost-effectiveness, economical feasibility, wider sustainability, technical suitability, as well as sufficient competition
Energy efficiency obligation schemes	Article 7	Each Member State shall set up an energy efficiency obligation scheme. That scheme shall ensure that energy distributors and/or retail energy sales companies that are designated as obligated parties under paragraph 4 operating in each Member State's territory achieve a cumulative end-use energy savings target by 31 December 2020
		Member States shall notify to the Commission, by 5 December 2013, the policy measures that they plan to adopt for the purposes of the first subparagraph and Article 20(6)
Energy audits and energy management systems	Article 8	Member States shall promote the availability to all final customers of high quality energy audits which are cost-effective
		Member States shall develop programmes to encourage SMEs to undergo energy audits and the subsequent implementation of the recommendations from these audits.
		Member States shall also develop programmes to raise awareness among households about the benefits of such audits through appropriate advice services
		Member States shall encourage training programmes for the qualification of energy auditors
		Member States shall ensure that enterprises that are not SMEs are subject to an energy audit carried out in an independent and cost-effective manner by qualified and/or accredited experts or implemented and supervised by independent authorities under national legislation by 5 December 2015 and at least every four years from the date of the previous energy audit.

Specific Obligations to Member States	Article in Directive	Action Required
Metering	Article 9	Member States shall ensure that, in so far as it is technically possible, financially reasonable and proportionate in relation to the potential energy savings, final customers for electricity, natural gas, district heating, district cooling and domestic hot water are provided with competitively priced individual meters that accurately reflect the final customer's actual energy consumption and that provide information on actual time of use.
Billing Information	Article 10	Where final customers do not have smart meters as referred to in Directives 2009/72/EC and 2009/73/EC, Member States shall ensure, by 31 December 2014, that billing information is accurate and based on actual consumption
Cost of access to metering and billing information	Article 11	Member States shall ensure that final customers receive all their bills and billing information for energy consumption free of charge and that final customers also have access to their consumption data in an appropriate way and free of charge
Consumer information and empowering programme	Article 12	Member States shall take appropriate measures to promote and facilitate an efficient use of energy by small energy customers, including domestic customers. These measures may be part of a national strategy.
Penalties	Article 13	Member States shall lay down the rules on penalties applicable in case of non-compliance with the national provisions adopted pursuant to Articles 7 to 11 and Article 18(3)
Promotion of efficiency in heating and cooling	Article 14	Member States shall carry out and notify to the Commission a comprehensive assessment of the potential for the application of high-efficiency cogeneration and efficient district heating and cooling, containing the information set out in Annex VIII. If they have already carried out an equivalent assessment, they shall notify it to the Commission
		Member States shall adopt policies which encourage the due taking into account at local and regional levels of the potential of using efficient heating and cooling systems
		Member States shall carry out a cost-benefit analysis covering their territory based on climate conditions, economic feasibility and technical suitability
		Member States shall ensure that the origin of electricity produced from high – efficiency cogeneration can be guaranteed according to objective, transparent and non-discriminatory criteria laid down by each Member State.
		Member States shall ensure that any available support for cogeneration is subject to the electricity produced originating from high-efficiency cogeneration and the waste heat being effectively used to achieve primary energy savings. Public support to cogeneration and district heating generation and networks shall be subject to State aid rules, where applicable

Specific Obligations to Member States	Article in Directive	Action Required
Availability of qualification, accreditation and certification schemes	Article 16	Where a Member State considers that the national level of technical competence, objectivity and reliability is insufficient, it shall ensure that, by 31 December 2014, certification and/or accreditation schemes and/or equivalent qualification schemes, including, where necessary, suitable training programmes, become or are available for providers of energy services, energy audits, energy managers and installers of energy-related building
Information and training	Article 17	Member States shall ensure that information on available energy efficiency mechanisms and financial and legal frameworks is transparent and widely disseminated to all relevant market actors, such as consumers, builders, architects, engineers, environmental and energy auditors, and installers of building elements
Energy services	Article 18	Member States shall promote the energy services market and access for SMEs to this market
		Member States shall ensure that energy distributors, distribution system operators and retail energy sales companies refrain from any activities that may impede the demand for and delivery of energy services or other energy efficiency improvement measures, or hinder the development of markets for such services or measures, including foreclosing the market for competitors or abusing dominant positions.
Other measures to promote energy efficiency	Article 19	Member States shall evaluate and if necessary take appropriate measures to remove regulatory and non-regulatory barriers to energy efficiency, without prejudice to the basic principles of the property and tenancy law of the Member States
Energy Efficiency National Fund, Financing and Technical Support	Article 20	Member States shall facilitate the establishment of financing facilities, or use of existing ones, for energy efficiency improvement measures to maximise the benefits of multiple streams of financing.
		Member States may set up an Energy Efficiency National Fund. The purpose of this fund shall be to support national energy efficiency initiatives.
Review and monitoring of implementation	Article 24	Member States shall report on the progress achieved towards national energy efficiency targets
		Member States shall submit National Energy Efficiency Action Plans
		Member States shall submit to the Commission before 30 April each year statistics on national electricity and heat production from high and low efficiency cogeneration, in accordance with the methodology shown in Annex I
Transposition	Article 28	Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 5 June 2014

Annex 2 – Overview of Energy Efficiency Policies and Programmes of the Contracting Parties in the South East Europe Region

The purpose is to give a quick overview to better understand the how well energy efficiency policies and programmes are being implemented in the Contracting Parties. The information was derived from our network of experts in the countries and from the Energy Community website.

Country: Albania

Energy Efficiency Policy Context

Long-term Policy Objective for Energy Efficiency

In 2009, the National Energy Efficiency Action Plan (NEEAP) 2010 – 2018 was adopted with an energy savings target of 9% of the average energy consumption between 2004 and 2008 by 2018 (during this period, the total energy consumption is expected to increase by some 50%).

Legal Framework

The existing energy efficiency law is Law No. 9379, date 28.04.2005, "Për efiçencën e energjisë" (For energy efficiency). A draft law on buildings was submitted to the Ministry in December 2014.

EU framework directives on energy efficiency[1]

Progress in implementing the three EU framework directives on energy efficiency has been very slow.

Directive 2006/32/EC on Energy End-Use Efficiency and Energy Services – NOT IMPLEMENTED

To date, Albania has not yet adopted legislation amending or replacing the existing Law on Energy Efficiency, which in itself is not in compliance with Directive 2006/32/EC. In particular, the draft Law on Energy Efficiency, by which transposition of the Directive could be achieved to a large extent, has not yet been enacted. Albania also did not adopt the second EEAP within the deadline set. The country thus fails to fulfill its obligations under Directive 2006/32/EC.

Directive 2010/30/EU on Energy Labelling – PARTLY

With regards to the Energy Community's labelling requirements, the Law on Information of the Consumption of Energy and Other Resources by Energy-related Products transposed the recast Directive 2010/30/EU. However, the adoption of relevant secondary legislation for energy labelling of specific appliances is still pending. Therefore Albania is still not in compliance with the Delegated Acts on Labelling.

Directive 2010/31/EU on the Energy Performance of Buildings – NOT IMPLEMENTED

With regard to energy efficiency in buildings, the adoption of draft legislation is also still pending. The deadline for the transposition of Directive 2010/31/EU expired on 30 September 2012. The Albanian laws, regulations and administrative provisions are not in compliance with Directive 2010/30/EU.

Preparation of NEEAP

The Ministry of Economy, Trade and Energy is working on the second Energy Efficiency Action Plan. The EEAP was due in June 2013, making it more than two years late.

1 *https://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Implementation/Albania/Energy_Efficiency*

Potential for Energy Efficiency Improvements

There is no known analysis of the potential for cost-effective energy efficiency. The first NEEAP provides expected saving by 2016.

National indicative annual energy savings target 2016 (ktoe)	160
National Intermediate indicative annual energy savings target 2011 (ktoe)	26

Measures to improve energy efficiency planned for achieving the target	Annual energy savings expected by 2011 (ktoe)	Annual energy savings expected by 2016 (ktoe)
Package of measures in the residential sector	5	35
Package of measures in the tertiary sector	5	30
Package of measures in the transport sector	8	50
Package of measures in agriculture	2	5
Total ESD energy savings expected	26	160

SOURCE: *Energy Efficiency Action Plan*

Programmes

National

Albania has awareness campaigns, brochures and other information material on energy efficiency.

There have also been integrated measures for energy efficiency in public buildings Implementing by the National Agency of Natural Resources (AKBN). The premises where the project is implemented includes the Child Development Centre "Doves" in Tirana and two kindergartens.

There have been small projects for the deployment of solar panels in public and private buildings.

Municipal

The first Energy Efficiency Action plan included a dedicated a budget for municipalities (for more employees to monitor implementation of the requirements for energy efficiency in Buildings. The renovation of public buildings also includes municipalities having to renovate their own buildings. Finally, the EEAP mentions measures to be undertaken for street lighting and transport.

International

Albania has projects funded through bilateral sources. Some examples are:

- A German government grant administered by the KfW Bank implemented by AKBN entitled "Promotion of Renewable Energy Sources and Energy Efficiency"
- Grant from the Italian Government, implemented by the Ministry of Environment, entitled "Sustainable development and the reduction of greenhouse effect gases."

The EBRD website does not list any projects funded for energy efficiency.

Organisation for Energy Efficiency

Institutional Arrangements

The National Agency of Natural Resources (AKBN) is an institution under the Ministry of Economy, Trade and Energy and deals with the energy issues including making the projections for the Energy Efficiency Action plan. The council of ministers approves the national strategy for energy efficiency and the National Action Plan for Energy Efficiency.

Budget

There is no dedicated budget for energy efficiency. It is planned to have such a budget after the adoption of the new energy efficiency law.

Overall Comments[2]

The results are poor and there are significant opportunities for Albania to take a more pro-active and comprehensive approach to energy efficiency.

The Secretariat is expecting that the Ministry of Energy and Industry finalises and approves the Energy Efficiency Law, as envisaged by the Ministry's own timetable. Adopting the new Law on Energy Efficiency would be of essential importance for the further development of the legislative framework and for the implementation of energy efficiency measures foreseen for the achievement of energy efficiency targets.

Furthermore, Albania needs to improve and adopt immediately the second energy efficiency action plan, following requirements of the Directive 2006/32/EC and the template developed by the Energy Efficiency Coordination Group.

Besides this, the institutional framework should be developed and strengthened, with clearly defined roles and responsibilities. The establishment of the Energy Efficiency Fund will significantly contribute to the implementation of the EEAP. Stronger promotion of the exemplary role of the public sector by EEAP measures is equally important for effective implementation of Directive 2006/32/EC, in addition to the creation of proper legal, institutional and financial frameworks.

Another priority should be the development of legislation and regulation dealing with labelling of energy-related products and energy efficiency in buildings in order to comply with the Delegated Acts on Labelling and Directive 2010/31/EU by adopting the necessary law(s) and updating the existing Building Code.

Drivers for energy efficiency

It is our estimation that the main two reasons why energy efficiency is being undertaken in Albania is to address energy security and to meet EU requirements.

2 Comments primarily from https://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Implementation/Albania/Energy_Efficiency

KEY INDICATORS

	2009	2010	2011	2012
Total primary energy supply (Mtoe)	2,07	2,06	2,17	2,00
Net imports (Pet products + electricity) %	1,28	1,28	1,46	1,27
Total Final Consumption (TFC) (Mtoe)	1,91	1,94	1,93	1,85
TFC Residential %	0,48	0,48	0,50	0,50
TFC Commercial Sector %	0,17	0,15	0,17	0,17
TFC Industry %	0,23	0,29	0,31	0,31
TFC Transport %	0,73	0,74	0,77	0,74
TFC others	0,13	0,15	0,13	0,09
TFC non energy use	0,17	0,12	0,04	0,04
Energy Intensity TPES/GDP (toe per thousand 2005 USD) toe/1000 GDP	0,20	0,19	0,20	0,18
TPES/Population (toe per capita)	0,65	0,64	0,68	0,63

SOURCE: *Energy Balances of OECD Countries, 2014 or Non-OECD Countries*

SOURCE: *https://www.energy-community.org/portal/page/portal/ENC_HOME/MEMBERS/PARTIES/ALBANIA*

SOURCE: *"National agency of natural resources", energy balances, used mainly for the calculation of import data*

Note: There is a slight difference between the National Data and the IEA data. In our energy model we have tried to use as much as we can the IEA data. The import calculations are done based on the national data, for this they are reflected as percentage to avoid the exact number, (as I was missing the value for IEA for import). For the energy intensity, at the source of energy community it was written "Energy Intensity TPES/GDP (toe/1000 GDP). It is not adapted as toe for thousand 2005 USD)

Country: Bosnia and Herzegovina

Energy Efficiency Policy Context

Long-term Policy Objective for Energy Efficiency

The policy developments for energy efficiency, renewable energy and the environment remain very weak. While energy policy is within the competence of the two Entities of BiH[3] there is, as yet, no fully articulated set of Entity policies, or a detailed energy framework at the State level. According to the in-depth review of BiH undertaken by the Energy Charter in 2012: "Energy efficiency is evidently a factor considered in relation to large capital investments such as the repowering of power stations. There are EE and renewable energy champions but in general they lack the resources and the legislative mandate to really make a difference."[4]

Legal Framework

The legal framework is still undeveloped. Republika Srpska recently adopted the Law on Energy Efficiency and the EEAP, while the Federation of Bosnia and Herzegovina is in the final phase of parliamentary discussion and approval of a similar law.

EU framework directives on energy efficiency[5]

The adoption of the framework directives for energy efficiency has been poorly implemented to date.

Directive 2006/32/EC on Energy End-Use Efficiency and Energy Services – PARTLY

Republika Srpska recently adopted the Law on Energy Efficiency and the EEAP, while the Federation of Bosnia and Herzegovina is in the final phase of parliamentary discussion and approval of a similar law. However, in the absence of a full package of primary and secondary legislation transposing Directive 2006/32/EC in each entity and the Brcko District, as well as the adoption of a state-level EEAP and changes in the state-level Law on Public Procurement to include energy efficiency criteria, Bosnia and Herzegovina fails to comply with this Directive. The Energy Community Secretariat initiated infringement action in March 2014.

Directive 2010/30/EU on Energy Labelling – NOT IMPLEMENTED

In the absence of the required framework regulation(s) transposing Directive 2010/30/EU and the Delegated Regulations, Bosnia and Herzegovina fails to comply with Directive 2010/30/EU.

Directive 2010/31/EU on the Energy Performance of Buildings – PARTLY

The degree of compliance with Directive on the Energy Performance of Buildings differs between the entities. In the Federation of Bosnia and Herzegovina, the Directive's requirements related to the calculation methodology for minimum energy performance of buildings, energy audits and energy certification of buildings are already transposed through the existing Law on Physical Planning and Land Utilization, as well as several by-laws. However, certain issues related to the Directive still need to be completed, such as cost-optimal calculations, definition and plans for realization of nearly zero-energy buildings, which is a matter of non-compliance with Directive 2010/31/EU. In Republika Srpska, the key requirements of Directive 2010/31/EU have been transposed through the new Law on Physical Planning and Construction of May 2013 (energy performance of new and existing buildings, certification of buildings, energy audits of buildings, public sector exemplary role), but need to be further elaborated through secondary

3 The two entities are the Federation of Bosnia and Herzegovina and Republika Srpska

4 *In-Depth Review of Energy Efficiency Policies and Programmes: Bosnia and Herzegovina*, Energy Charter Secretariat, Brussels, 2012, p. 12.

5 *https://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Implementation/Bosnia_Herzegovina/Energy_Efficiency*

legislation. Despite some progress in this area, Bosnia and Herzegovina still fails to fully comply with the requirements of this Directive.

Preparation of NEEAP

In Bosnia and Herzegovina at the state level there is still no strategy for energy sector, but the entities have developed their own strategies – the Federation of Bosnia and Herzegovina in 2009 and the Republic of Srpska 2012. However, the implementation of these two strategic documents is going slowly because both of these strategies, particularly in the FBiH, have not been developed through a public consultation process and do not reflect the will and needs of the local population.

Potential for Energy Efficiency Improvements

There has not been a detailed assessment of remaining potential for cost-effective energy efficiency improvements.

Programmes

Republic of Srpska

With the adoption of the new Law on the Fund for Environmental Protection RS, it has been provided that the Fund in the RS will finance projects aimed at improving energy efficiency. In the Republic of Srpska, primarily due to the small number of existing facilities in renewable energy, the budget is slightly higher, but also limited in the long-term.

Municipal

Adoption of the Action Plan as an official document of the municipality is a key element for its implementation and ultimately to reach a goal to reduce CO_2 emission by 2020. The first step is to establish an Energy Council as a core body which will monitor and evaluate the whole process. Once the Council accepts the Action Plan as a professional and high quality conductive document the City Administration will declare it as the official document as a prerequisite for the starting the implementation. For a municipality that means acceptance of the Action Plan by the Municipal Assembly. Towns and municipalities that have already signed this agreement are Banja Luka, Sarajevo, Prijedor, Tuzla and Bijeljina.

List of cities and municipalities from Bosnia and Herzegovina that have submitted seaps to the covenant of mayors

Signatories in BiH	Council Deliberation	CO_2 target	Analysis Status
Laktaši	18. Mar 2011.	21%	SEAP submitted
Sarajevo	22. Jan 2011.	20%	SEAP pending clarifications requested
Livno	22. May 2012.	20%	SEAP accepted
Travnik	16. Mar 2012.	20%	SEAP accepted
Gradiška	28. Feb 2012.	28%	SEAP accepted
Zenica	29. Dec 2011.	20%	SEAP accepted
Trebinje	7. Dec 2011.	22%	SEAP accepted
Prijedor	8. Nov 2011.	20%	SEAP accepted
Bijeljina	4. Okt 2011.	31%	SEAP accepted
Tuzla	13. Jul 2011.	21%	SEAP accepted
Zvornik	12. May 2011.	20%	SEAP accepted
Banja Luka	30. Mar 2010.	20%	SEAP accepted
Gračanica	31. Mar 2015.	27%	SEAP submitted
Kakanj	30. Dec 2013.	20%	SEAP submitted
Bihać	14. Jan 2012.	20%	SEAP submitted

Organisation for Energy Efficiency

Institutional Arrangements

Bosnia and Herzegovina does not have an Energy Efficiency Agency.

At the Entity level, the key government ministries are[6]:

- Federal Ministry of Energy, Mining and Industry (FMEMI). The Ministry implements the policy and enforces the laws as determined by the legislative body, executes the administrative supervision of implementation of the laws and other regulations, proposes and gives recommendations in the field of legislation, answers to questions of the legislative authorities, and performs tasks of administrative and professional nature.
- Ministry of Industry, Energy and Mining of RS (MEED): Five sections within the Ministry have energy related responsibilities: section for energy and energy related power utilities, section for energy and fuels, section for development of energy and mining, thermo energetic inspection, and electric power inspection.

The Republic of Srpska has not adopted necessary secondary legislation relating to energy efficiency, which is the responsibility of the RS Government, Ministries and of the Environmental Protection and Energy Efficiency Fund of the Republic of Srpska, i.e. it has incomplete regulations in this area.

Budget

With the adoption of the new Law on the Fund for Environmental Protection RS, it has been provided that the Fund in the RS will finance projects aimed at improving energy efficiency. In the Republic of Srpska, primarily due to the small number of existing facilities in renewable energy, budget is slightly higher, but also limited in the long-term.

The EBRD has funded projects on district heating in Pale and Prijedor.

Overall Comments[7]

Since 2006, when Energy Community Treaty (EnCT) entered into force, Bosnia and Herzegovina has not made substantial progress towards the directives in the field of energy efficiency. This conclusion arises because BiH did not establish appropriate institutions for the promotion and encouragement of investment in technology leading to a higher level of energy efficiency and also legislation in this area has not been adopted.

From EnCT website:

Bosnia and Herzegovina has still not developed fully the appropriate legislative and institutional framework for energy efficiency in line with the acquis.

The energy efficiency legislation in the Federation of Bosnia and Herzegovina, including for energy efficiency in buildings, needs to be immediately adopted. The same goes for the EEAP and the accompanying secondary legislation.

Moreover, the Labelling Directive and the Delegated Regulations need to be quickly transposed.

Finally, a state-level EEAP and amendments to the State Law on Public Procurement to include energy efficiency criteria need to be adopted. The coordination between authorities at the entity and state levels as a precondition for any progress needs to be improved. A state-level structure for monitoring the implementation must be established and adequately sourced with funds and personnel.

---

6 From Energy Charter Secretariat, *In Depth Review of Energy Efficiency Policies and Programmes: Bosnia and Herzegovina*, 2012, p. 58.

7 Primarily from https://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Implementation/Bosnia_Herzegovina/Energy_Efficiency

KEY INDICATORS

	2000	2009	2010	2011	2012
Total primary energy supply (Mtoe)	5,95	6,15	6,44	7,09	6,67
Net imports (Mtoe)	1,26	1,85	1,99	2,36	3,14
Total Final Consumption (TFC) (Mtoe)	2,26	3,03	3,22	3,33	3,21
TFC Residential/Commercial Sector (ktoe)	0,62	0,79	0,82	0,83	0,81
TFC Industry (ktoe)	0,52	0,51	0,59	0,66	0,67
TFC Transport (ktoe)	0,60	1,15	1,13	0,11	1,05
Energy Intensity TPES/GDP (toe per thousand 2005 USD) toe/1000 GDP	0,51	0,48	0,5	0,54	0,52
TPES/Population (toe per capita)	1,18	1,64	1,72	1,89	1,82

SOURCE: *IEA – International Energy Agency, http://www.iea.org/statistics/statisticssearch/report/?year=2012&country=BOSNIAHERZ&product=Indicators*

Country: Kosovo

Energy Efficiency Policy Context

Long-term Policy Objective for Energy Efficiency

Kosovo's NEEAP (2010–2018) foresees an achievement of the indicative target of 9% to 1021.08 ktoe until the end of the period.

Legal Framework

Up to this point, the basic laws regarding energy efficiency and administrative guidelines derived from these laws are drafted : the Law on Energy; Law on Energy Efficiency; Administrative Instruction for the Promotion of Efficient Use of Energy from end users and Energy Services; Administrative guidelines for the labelling of devices that use energy; Administrative Instruction for Energy Audit; Administrative Instruction on rules for Energy balances; Regulation on the establishment and functioning of the commission for certification of energy auditors and managers.

EU framework directives on energy efficiency

Directive 2006/32/EC on Energy End-Use Efficiency and Energy Services – PARTLY

Certain key provisions of the Directive 2006/32/EC were already transposed by the Energy Efficiency Law (energy efficiency targets and plans, exemplary role of the public sector, energy management, energy auditing, role of state institutions and different organisations dealing with energy efficiency) and further implemented by secondary legislation and the second EEAP. The second, EEAP adopted in December 2013, complies with all requirements of Directive 2006/32/EC. The amendments to the Law on Public Procurement of 2011 introduced energy efficiency criteria in the procurement of energy efficient equipment and vehicles, in line with Annex VI of Directive 2006/32/EC. However, there is no secondary legislation in place. Secondary legislation on financing instruments, metering and informative billing, ESCO etc. still needs to be adopted for full compliance.

Directive 2010/30/EU on Energy Labelling – YES

In the area of labelling, the Administrative Instruction on the Labelling of Energy Related Products transposes Directive 2010/30/EU and the Delegated Regulations. Consequently, Kosovo complies with the Labelling Directive.

Directive 2010/31/EU on the Energy Performance of Buildings – PARTLY

In Feb 2015, the Secretariat submitted Kosovo authorities a draft Law on the Energy Performance of Buildings. The amendments to the Law on Construction adopted in 2012 are not sufficient to implement Directive 2010/31/EU as it only opened a possibility to transpose the Directive through secondary legislation. Pending the adoption of a separate Law on the Energy Performance of Buildings and secondary legislation, Kosovo* fails to comply with Directive 2010/31/EU.

Preparation of NEEAP

Kosovo has prepared the second end of the three-year National Action Plan for Energy Efficiency (NEEAP) from 2013 to 2015, as an integral part of NEEAP 2010–2018. Prior to this one there was the NEEAP (2010–2012) as the first one in Kosovo.

Potential for Energy Efficiency Improvements

Kosovo's NEEAP (2010–2018) foresees an achievement of the indicative target of 9% to 1021.08 ktoe until the end of the period. Therefore, the amount of energy that Kosovo aims to save up to 2018 was 91.89 ktoe (no other detailed assessment rather than those or NEEAP report)

Since the household sector is the biggest energy consumer, it is expected that there lies the greatest potential for savings, but it also faces the most difficult barriers to achieving the potential.

Programmes

National

The NEEAP is designed for the entire energy sectors including household, industry, services, transport etc. As for fixed-term project, still waiting for an answer from MED.

Municipal

Municipalities have a considerable role in Energy Efficiency Strategies:

a. In cooperation with for the MED , they have also developed programs and budgetary possibilities for EE
b. There are examples of implementation of energy saving measures within the framework of cooperation with the central government and donations from foreign organizations.

Currently there is a municipality level project which deals with public schools in Prishtina, in particular lightening efficiency through which they change old lightbulbs to efficient ones. The project is financed by the European Commission.

Organisation for Energy Efficiency

Institutional Arrangements

Agencies and institutions that deal with energy efficiency policies currently are:

– Ministry of Economic Development – Department of Energy
– Kosovo Agency for Energy Efficiency

Budget

The implementation of the NEEAP will be supported by Kosovo's government budget and other financial support from international organizations (no organization names reported).

Overall Comments

The Government keeps promising on their willingness to follow EU targets. Yet, following the politics behind and the state's financial resources dedicated to it, the situation does not appear to be very promising within that regard.

As for the drivers for the priority for energy efficiency, energy security is seen as the most important. Others include reducing GHG emissions, improved competitiveness, improved air quality and health, and meeting EU requirements.

From EnCT website[8]:

Kosovo made significant progress during the reporting period, in particular with the adoption of the second EEAP. The priority for Kosovo* remains the adoption of the missing secondary legislation under the Energy Efficiency Law. This includes the development of new financing instruments and a national framework supporting ESCOs, the preparation of local plans and the strengthening of inter-institutional cooperation. Furthermore, KEEA is currently under-staffed compared to its eminent responsibilities and obligations. Both institutional capacity and energy efficiency statistics should be improved to enable successful monitoring, evaluation and verification of the achieved savings. Another priority should be timely finalisation and adoption of primary and secondary legislation on energy efficiency in buildings and procurement, which is important for implementation of the planned measures under the EEAP.

KEY INDICATORS

	2000	2009	2010	2011	2012
Total primary energy supply (Mtoe)	1,55	2,44	2,50	2,53	2,37
Net imports (Mtoe)	0,43	0,07	0,64	0,94	0,88
Total Final Consumption (TFC) (Mtoe)	0,77	1,17	1,19	1,32	1,26
TFC Residential/Commercial Sector	0,39	0,57	0,57	0,61	0,59
TFC Industry	0,15	0,24	0,27	0,31	0,28
TFC Transport	0,19	0,34	0,32	0,33	0,33
Energy Intensity TPES/GDP (toe per thousand 2005 USD)	0,58	0,52	0,52	0,5	0,45
TPES/Population (toe per capita)	0,91	1,38	1,41	1,41	1,31

SOURCE: *Energy Balances of OECD Countries, 2014 or Non-OECD Countries*

National Report (MED, Kosovo)	2009	2010	2011	2012	2013
Total primary energy supply (Mtoe)	2,372	2,437	2,505	2,358	2,392
Net imports (Mtoe)	0,525	0,575	0,702	0,669	0,637
Total Final Consumption (TFC) (Mtoe)	1,165	1,167	1,284	1,226	1,238
TFC Residential/Commercial Sector	0,57	0,58	0,61	0,59	0,61
TFC Industry	0,24	0,26	0,32	0,27	0,27
TFC Transport	0,34	0,32	0,34	0,34	0,33

SOURCE: *Annual Energy Balances of the Republic of Kosovo, Ministry of Economic Development (MED), (2009–2013)*

8 https://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Implementation/Kosovo/Energy_Efficiency

Country: Macedonia

Energy Efficiency Policy Context

Long-term Policy Objective for Energy Efficiency

The Energy Efficiency Strategy stipulates a target of 9% energy savings in the final energy consumption until 2018 compared to the average energy consumption in the country in the period 2002–2006.

Legal Framework

Macedonia used to be a frontrunner not only in transposing the acquis but also in effectively tackling energy reforms. Over the last few years, the pace of reforms has slowed down.

EU framework directives on energy efficiency

Directive 2006/32/EC on Energy End-Use Efficiency and Energy Services – PARTLY

Directive 2006/32/EC relating to energy end-use efficiency, energy services requirements and the exemplary role of the public sector has either been transposed with the adoption of the Energy Law in 2011, and its amendments in 2013, or by secondary legislation (on energy audits, monitoring and management etc.). In accordance with the Energy Law, the public sector is obliged to implement measures aimed at energy efficiency improvements in their premises. The draft second EEAP and the draft National Programme for Energy Efficiency in Public Buildings put an adequate focus on the public sector. However, the draft second EEAP has still not been adopted. The deadline for doing so was 30 June 2013. Therefore Macedonia fails to comply with this requirement of Directive 2006/32/EC.

Directive 2010/30/EU on Energy Labelling – YES

Directive 2010/30/EU and the Delegated Acts were fully transposed with the adoption of the Rulebook on Labelling of Energy-Related Products, and its amendments of November 2012.

Directive 2010/31/EU on the Energy Performance of Buildings – YES

Key provisions of Directive 2010/31/EU were incorporated in the Energy Law of 2011 (including the amendments of May 2013), as well as in the Rulebook on Energy Performance of Buildings. Transposition of the Directive is now complete.

Preparation of NEEAP

The draft second Energy Efficiency Action Plan (EEAP) was submitted to the Secretariat in November 2013. The draft sets a less ambitious indicative overall energy savings target of 147.2 ktoe (9%) in 2018, compared to the first EEAP (12.2%). The draft second EEAP also sets an intermediary target of 80.1 ktoe (4.9%) to be reached in 2015.

Potential for Energy Efficiency Improvements

4a and b. Yes, the Second EEAP is very detailed on the subject. There is a table about the assumed energy savings potential per sector based on the Energy efficiency strategy on page 32.

POTENTIAL FOR ENERGY EFFICIENCY

Sector	2012	2015	2018	2020
Residential Sector	7,63	20,42	40,51	57,14
Commercial and Public Building Sector	4,96	14,85	24,19	28,6
Industry Sector	40,96	72,49	90,45	91,09
Transport Sector	12,55	28,21	44,63	60,48
Sum	**66,1**	**135,97**	**199,78**	**237,31**

According to the table greatest energy savings potential (in absolute number) has the industry sector.

The second table shows the target for energy savings in the Second EEAP on page 34.

National Indicative target in 2018 (ktoe)	147,2
National intermediate indicative target in 2012 (ktoe)	66,1

Sector division of target	**sector target (ktoe)**		**Achieved final energy savings in 2012 (ktoe)**		**Estimated final energy savings in 2018 (ktoe)**	
	2012	2018	Total (TD)	From measures (BU)	Total (TD)	From measures (BU)
Residential	7,63	29,8	7,14	2,79	27,41	21,07
Services	4,96	17,8	4,78	1,55	33,77	33,11
Industry	40,96	66,55	21,87	10,46	57,59	32,24
Transport	12,55	32,84	8,14	8,15	28,26	24,53
Total	**66,1**	**147,2**	**41,94**	**22,96**	**147,03**	**110,95**
Percentage (%)(compared to ESD reference consumption)	4%	9%	2,56%	1,40%	8,99%	6,78%

Estimated total investment needed for the period 2013–2015 is 11158.36 Million Denar.

Programmes

National

There is the EEAP for the whole country and it includes all end-users. There have been so far two EEAPs. As shown in the table in the Budget section, the funds come from different sources.

Municipal

The municipalities are required to prepare EE programmes and it is mandatory to report them to the Energy Agency. The municipal EE programmes focus mainly on the public sector (very few or no measures for the commercial and residential sector) and most often these measures include improvement of insulation and of lighting. There are also minimal measures for the transport sector – mainly the cars and busses in municipal possession.

The municipalities are heavily involved in EE on local level. With the Law on Energy from 2011 they have the responsibility to prepare three year programmes for EE, yearly EE action plans and to inform the Energy Agency on how they are implementing the programmes. The municipality of Karpos is a leading example of measures undertaken in implementing EE. The first energy efficiency programme of the municipality Karpos is for the period 2008–2012 and the second for 2013–2015. This municipality stands out since besides the usual measures (lighting, improvement of insulations of public buildings, etc.) it also plans many measures for increasing of renewables, measures for the residential sector and for improving the local heat market/local heating.

According to Analytica's paper in 2010, two projects in Karpos were finished: one aimed at implementing a double regime for sidewalk lighting on the bank of the river Vardar and the other concerning the installation of a solar system for charging stop lights at crossroads. There were several projects going on:

- Integrated systems for managing and monitoring street lighting in the municipality (128 separate commands for the street lighting outside the transformer stations);

- Reconstruction of the street lighting with economical light bulbs (3600 in total);
- New object for the municipal building built according to the highest energy efficiency standards.

Also this municipality is one of the rare ones that have formed a Unit for Energy Efficiency that is officially part of the Sector for Environmental Protection. Currently it employs two civil servants, an electrical engineer and electrical technician. The unit cooperates closely with the Sector for development that also employs one mechanical engineer and one economist (they both work on the projects related to EE). The municipality also has a team for EE, consisting of four members. Two people of the Sector for Local Development are involved.

Organisation for Energy Efficiency

Institutional Arrangements

The institutional arrangements for EE policies are: there is a dedicated Energy Agency which is responsible for supporting the energy policy implementation, promoting RES and EE and is also involved and has to initiate energy strategies, RES and EE projects.. However the main body responsible for the energy policy of the country is the Ministry of Economy (author of the EE strategy for instance), more precisely its Department for Energy which is responsible inter alia for all energy policies including RES policy and the investment activities in the energy area. The Ministry prepares laws, bylaws and other legal acts in the energy area, follows the implementation of the laws and prepares energy strategies. The municipalities are by law required to prepare EE plans and submit them for approval to the Energy Agency.

Another involved institution is the Ministry of Environment and Physical Planning which isinvolved through the IPA Programmes as there are funds intended for EE and RES in the fight against climate change.

Budget

The EEAP provides a table of funding and funding sources:

Sector/ Financial Source	Budget of the RM	Municipalities	EEF	ESCO Companies	Financial Institutions (foreign, domestic, and donors)	Energy Suppliers	Private Sector	Total Investments for the Period 2013–2015
Buildings	219,92	32,08	0	0	0	0	68,81	320,81
Residential	25,07	0	0	409,59	1141,75	84,87	1259,97	2921,25
Public	137,49	509,78	1098,84	672,2	865,8	0	0	3284,1
Commercial	0	0	0	302,69	302,69	0	605,39	1210,77
Industry	0	0	0	292,21	292,21	0	584,43	1168,85
Energy	0	0	0	23,62	0	2221,09	7,87	2252,58
Mobility	N/D	N/D	0	0	N/D	0	N/D	N/D
Total	**382,48**	**541,86**	**1098,84**	**1700,31**	**2602,45**	**2305,96**	**2526,46**	**11158,36**

Overall Comments

The Energy Efficiency Strategy states that its main priorities are: secure supply of energy, sustainable economic development and competitiveness of the economy. Reduced emissions are considered as a positive effect of energy efficiency. The reason behind the strategy preparing in the energy sector is meeting EU requirements. Hence, it could be summed up that main drivers for improved energy efficiency are more in line with improved competitiveness and energy security (it mentions lowering import dependence, energy intensity, unproductive usage of energy and preparing a solid ground for maximizing the inclusion and prospects of the private sector). Under 3rd priority come the EU requirements.

From EnCT website[9]:

Macedonia made significant progress in the implementation of the energy efficiency acquis in 2013 and 2014, including in the update of primary and secondary legislation. The priority for FYR of Macedonia in the following period remains to adopt the second EEAP and to implement its measures. Otherwise the Secretariat is compelled to launch infringement action. Another important issue is the development of an efficient information system for monitoring and verification of energy savings.

The further implementation of Directive 2010/31/EU should also be a priority, in particular the development of the calculation software and checking of the cost-optimal level of minimum requirements of energy performance of buildings and building components.

Finally, strengthening of the institutional capacities (in the Ministry, Agency, etc.) is important, as the existing structures and human resources proved to be insufficient during the realization of the first EEAP. The draft second EEAP proposed also the establishment of two important new bodies, the Energy Efficiency Fund and a Supervisory Committee. The Energy Efficiency Fund, when established, is expected to strongly support the implementation of energy efficiency measures.

KEY INDICATORS

	2000	2009	2010	2011	2012	2013
Total Primary energy supply (Mtoe)	1,60	1,61	1,62	1,74	1,52	1,37
Net imports (Mtoe)(or percentage)	1,10	1,64	1,61	1,83	1,75	1,52
Total Final Consumption (TFC)	1,61	1,70	1,84	1,96	1,89	1,82
TFC Residential	0,48	0,54	0,53	0,54	0,52	0,45
TFC Commercial	0,16	0,24	0,23	0,2	0,23	0,22
TFC Buildings	0,65	0,79	0,70	0,75	0,76	0,67
TFC Industry	0,54	0,42	0,54	0,64	0,58	0,56
TFC Transport	0,37	0,44	0,46	0,48	0,47	0,50
Energy Intensity TPES/GDP (toe per thousand Euro)	710,2	575,7	573,3	606,7	532,3	474

SOURCE: *Energy Balances of OECD Countries, 2014 or Non-OECD Countries*
SOURCE FOR 2012 AND 2013: *State Statistical Office, (2014), Energy balances 2013, http://www.stat.gov.mk/pdf/2014/6.1.14.79.pdf*
SOURCE FOR 2011: *State Statistical Office, (2013), Energy balances 2012 http://www.stat.gov.mk/pdf/2013/6.1.13.87.pdf*
SOURCE FOR 2010: *State Statistical Office, (2012), Energy balances 2011 http://www.stat.gov.mk/pdf/2012/6.1.12.82.pdf*
SOURCE FOR 2009: *State Statistical Office, (2012), Energy balances 2010 http://www.stat.gov.mk/pdf/2012/6.1.12.38.pdf*
SOURCE FOR 2000: *State Statistical Office, (2012), Energy statistics 2000 –2010 http://www.stat.gov.mk/publikacii/6.4.12.01.pdf*
: Total Final Consumption includes both final energy and final non-energy consumption*

9 *https://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Implementation/FYR_Macedonia/Energy_Efficiency*

Country: Montenegro

Energy Efficiency Policy Context

Long-term Policy Objective for Energy Efficiency

The long-term objective is to meet the 9% target required under Energy End-Use Efficiency and Energy Services Directive.

Legal Framework

The Ministry of Economy drafted a new Law on Efficient Use of Energy, which was adopted by Parliament of Montenegro on 16 December 2014. According information from website of Ministry of Economy, the new law on efficient use of energy is in compliance with main EU directives in the field of energy efficiency.

EU framework directives on energy efficiency

Directive 2006/32/EC on Energy End-Use Efficiency and Energy Services – YES

The Law on Energy Efficiency and the Public Procurement Law transposed Directive 2006/32/EC. The exemplary role of the public sector is promoted well by the Law and the second EEAP. The adoption of the new Law on Efficient Use of Energy will further improve implementation of Directive 2006/32/ EC (clearer procedures for measurement and verification of energy savings, new register of large energy consumers, improvement of energy performance certification, definition of energy-related products and obligations for market players, establishment of an inspectorate for energy efficiency) as well as include some provisions from the Energy Efficiency Directive 2012/27/EU, namely on energy services, energy management, as well.

Directive 2010/30/EU on Energy Labelling – PARTLY

With regard to labelling, the Law on Energy Efficiency of 2010 transposes the general requirements of the old Directive 92/75/ EEC, but not the recast Directive 2010/30/EU and the Delegated Acts. Once adopted, the draft Law on Efficient Use of Energy and the draft Rulebook on Labelling of Energy-Related Products will rectify this non-compliance.

Directive 2010/31/EU on the Energy Performance of Buildings – PARTLY

The requirements of Directive 2010/31/EU have been transposed in general through the Law on Energy Efficiency, and are further implemented through the set of rulebooks adopted in May 2013. Despite compliance with the Directive, the implementation of certain requirements (i.e. certification of buildings and inspection of heating and air conditioning systems) will be delayed, as entry into force was postponed to January 2016.

Preparation of NEEAP

Two Action plans were prepared for EE. The first one was for period 2010 – 2012 and second for the period 2013 – 2015. Both action plans are on the web site of Energy Community.

Potential for Energy Efficiency Improvements

Programmes

National

In the Action Plan 2012 – 2015 are defined measures for energy efficiency in following sectors:

- General measures in building sector – relating to householders, public and commercial
- Measures for Householders (Information campaigns and networking between EE info centres, labelling household appliances, Financing support for investments in RES on demand side)

- Measures for the services sector (public and commercial). **Public:** Development of Energy management systems, Establishment and application of EE criteria in public procurements, Improving of energy performance in buildings, Implementing measures for EEI in public utilities of local governments and other public companies **Commercial:** Development of Energy management systems, Program encouraging the use of solar energy in the tourism sector, improving of energy performance in commercial buildings
- Measures for Industry: Development of Energy Management System
- Measures for Transport: Establishment and implementation of EE criteria in public procurement of vehicles and transport services in the wider public sector, The introduction of the chapter "Energy Efficiency in Traffic "in the programs and plans to improve the EE, Campaigns on EE behaviour in transport and pilot activities, The study – Action Plan for energy efficiency in transport, Infrastructure measures in the transport sector with the effects of energy savings
- Measures for energy entities: Individual metering and informative billing for end customers

Municipal

Municipalities do not have budgets for energy efficiency but within new Law on Efficient Use of the Energy, Article 13 – Financing of Energy Efficiency measures of local self-government we can find that finances can be provided from state budget for measures from the programme for energy efficiency improving. This program must be in line with national action plan. Municipalities have obligation to prepare Programme for energy efficiency improvements every three years.

All Municipalities have an obligation to prepare a Programme for Energy Efficiency. The capital city Podgorica had signed Memorandum of understanding with five other municipalities (Zagreb, Sarajevo, Skopje, Tirana with Freiburg im Breisgau in Germany playing a supporting role) from South East Europe in the frame of Regional project Energy Efficiency "The Network of Energy Efficient Capital Cities in South-East Europe".

Project Objective

The regional networks are supported by the Open Regional Fund – Energy Efficiency (ORF-EE) independently share their experiences of implementing energy efficiency measures and address issues of common interest. In so doing, they contribute towards the more effective implementation of energy efficiency policies in their respective countries.

Results:

All of the partner cities have signed up to the European Covenant of Mayors initiative and are committed to cutting their CO_2 emissions by a minimum of 20 per cent by 2020.

They have put in place energy management structures and drawn up sustainable energy action plans that are currently being implemented.

More information is available at: *https://www.giz.de/en/worldwide/31746.html*

Organisation for Energy Efficiency

Institutional Arrangements

There is the Directorate for Energy Efficiency within the Ministry of Economy. There is no specific energy agency.

Budget

There is no budget dedicated by the government for implementing energy efficiency. Montenegrin Energy Efficiency Strategy is from 2005, and all other relevant documents in Energy sector are from 2014 (Energy Strategy until 2030),

Law on Efficient use of the Energy (2014/2015). That mean that Energy Efficiency Strategy is not in correlation with higher documents as Energy Strategy until 2030)

Overall Comments

There is progress. The main driver for activities in energy efficiency is to meet the obligations under the EU acquis.

From EnCT website[10]:
Despite significant progress made in the reporting period, the finalisation of certain legislation requires more efforts by Montenegro.

The priority must be the adoption of the Law on Efficient Use of Energy and the missing secondary legislation, especially the Rulebook on Labelling of Energy-Related Products. In the framework of the Implementation Partnership signed with the Secretariat in June 2012, technical assistance is possible in this area.

Montenegro should improve statistical data collection and its system for calculation of energy efficiency indicators and savings, as well as monitoring of EEAP implementation. Adequate resources (human and financial) should be dedicated to improve the situation in this area. In order to achieve the indicative energy savings target, significant financial resources should be mobilized, in addition to public budget financing. It is necessary to further develop models for public private partnership in the field of energy efficiency (including ESCOs).

Finally, the institutional set-up must be improved, either by strengthening the capacities within the Ministry of Economy and local authorities or by establishing a specialised energy efficiency agency.

KEY INDICATORS

	2000	2009	2010	2011	2012
Total primary energy supply (Mtoe)	0,71	0,65	0,82	1,12	1,06
Net Imports (Mtoe) (or Percentage)	0,23	0,26	0,22	0,48	0,42
Total Final Consumption	0,44	0,45	0,44	0,76	0,73
TFC Residential/Commercial Sector	0,11	0,14	0,14	0,27	0,28
TFC Industry	0,27	0,21	0,30	0,22	0,20
TFC Transport	0,06	0,07	0,06	0,21	0,28
Energy Intensity TPES/GDP (toe per thousand 2005 USD)	0,14	0,1	0,13	0,39	0,37
TPES/Population (toe per capita)	1,13	1,04	1,3	1,81	1,71

SOURCE: *Energy Balances of OECD Countries, 2014 or Non-OECD Countries. Data for Montenegro is available starting in 2005. Between 1990 and 2004, data for Montenegro are included in Serbia. Prior to 1990, they are included in Former Yugoslavia.*

DATA FOR 2005, 2009, 2010: *http://www.iea.org/media/training/presentations/statisticsmarch/balancesofnonoecdcountries.pdf*

DATA FOR 2011: *http://www.iea.org/statistics/statisticssearch/report/?year=2011&country=MONTENEGRO&product=Balances, http://www.iea.org/statistics/statisticssearch/report/?year=2011&country=MONTENEGRO&product=Indicators*

DATA FOR 2012: *https://www.iea.org/publications/freepublications/publication/KeyWorld2014.pdf, http://www.iea.org/statistics/statisticssearch/report/?year=2012&country=MONTENEGRO&product=Balances*

10 *https://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Implementation/Montenegro/Energy_Efficiency*

Country: Serbia

Energy Efficiency Policy Context

Long-term Policy Objective for Energy Efficiency

The long-term objective is to meet the 9% target required under Energy End-Use Efficiency and Energy Services Directive.

Legal Framework

In March 2013, the Law on Efficient Use of Energy was adopted in Serbia. It transposes key provisions of Directives 2006/32/EC, 2010/30/EU and 2010/31/EU and includes rules on energy management, labelling of energy-related products, energy performance in buildings, energy efficiency requirements in energy production, transmission and distribution, financial mechanisms for energy efficiency, including the establishment of an Energy Efficiency Fund, and the promotion of the energy services decision to abolish the Energy Efficiency Agency in 2012 raises concerns regarding the implementation of the energy efficiency policy that is at present assigned to a department in the Ministry of Mining and Energy.

EU framework directives on energy efficiency

Directive 2006/32/EC on Energy End-Use Efficiency and Energy Services – YES

The Law on Efficient Use of Energy transposes the main provisions of the Directive 2006/32/EC (definitions, EEAP requirements, energy audits, minimum energy efficiency requirements in generation, transmission and distribution of electricity, new financing mechanisms and obligations of the public sector). The Government in October 2013 adopted the second EEAP. The calculation of the national indicative energy savings target is not fully in compliance with Article 4 of the Directive, as it is not on the basis of average annual amount of consumption for the most recent five-year period, but on the basis of data on the final inland energy consumption in 2008, due to statistical data constraints. The Ministry of Mining and Energy is currently drafting a comprehensive package of secondary legislation to further the full implementation of Directive 2006/32/EC.

Directive 2010/30/EU on Energy Labelling – YES

Directive 2010/30/EU and Delegated Acts were fully transposed with the adoption of the Decree and Rulebooks on the Labelling of Energy-Related Products in 2014.

Directive 2010/31/EU on the Energy Performance of Buildings – PARTLY

The Law on Construction and Planning, the Law on Efficient Use of Energy, the Rulebook on Energy Efficiency of Buildings and the Rulebook on Conditions, Content and Manner of Issuance of Certificates of Energy Performance of Buildings transpose relevant provisions of Directive 2010/31/EU. However, transposition and implementation of certain provisions (on inspection of heating and air conditioning systems, training and accreditation of experts, etc.) will be achieved only after adoption of the secondary legislation on the basis of the Law on Efficient Use of Energy.

Preparation of NEEAP

In October 2013, the second Energy Efficiency Action Plan (EEAP) was adopted by the Government. It represents a comprehensive strategic document for the implementation of the energy efficiency policy in the end-use sectors for the next three-year period (2013 – 2015), with projections for 2018

Potential for Energy Efficiency Improvements

Both NEEAP 1 and NEEAP 2 are operating with limited data and limited targets that are mostly focused on fulfilling EU requirements and as such do not actually respond (and do not take into consideration) overall social impact of high energy consumption/GDP and citizen and therefore could be considered only as formal response to demands of

EU and ECSEE. In that context,targets are being set only based on minimal effort and based on as limited as possible financial sources without considering that some of financial instruments provided to other so called energy priorities could be dismissed and then transferred to the EE measures in all sectors.

The NEEAP does not state where the greatest potential remains.

Programmes

National

The programmes for energy efficiency are considered just formal programmes with some measures that are not responding on the realities and can be considered only as political parole without serious impact.

There is formally a fund for energy efficiency in the Serbian budget but all the domestic and international stakeholders agree that it is not functioning and that it effectively does not exist.

Municipal

Essentially there are no programmes.

Organisation for Energy Efficiency

Institutional Arrangements

There is no dedicated agency for energy efficiency. The former one was closed in 2012. Responsibility is with the Ministry of Mining and Energy.

Budget

There is formally a dedicated Budget fund but without proper support of programmatic documents, staff for preparation of projects or programmes, proper analysis of the consumption-savings-economically consequences of investments.

Overall Comments

The programmes for energy efficiency are considered just formal programmes with some measures that are not responding on the realities and can be considered only as political parole without serious impact.

The main driver pushing any activity in energy efficiency is in meeting EU requirements.

From EnCT website[11]:

With the adoption of the Law on Efficient Use of Energy, the second EEAP and Labelling Regulation, Serbia achieved a significant step forward towards the transposition of the energy efficiency acquis. However, more needs to be done in the near future for full implementation.

The first priority for Serbia is the finalisation and adoption of the comprehensive set of secondary legislation based on the Law on Efficient Use of Energy. The timely adoption of the secondary legislation will also support the implementation of the second EEAP and the achievement of the energy savings target.

The second priority is the establishment of a stable and sustainable financing mechanism or mechanisms for effective implementation of the second EEAP. The establishment of the Budgetary Fund for Energy Efficiency is a significant step forward, but the Secretariat is concerned about the sustainability and the limitations posed by the earmarked public budget funds, as well as the possibility to attract other funds and blend these with the public ones in the current legal set up of the Fund. In order to achieve the indicative energy savings target, significant financial resources

11 https://www.energy-community.org/portal/page/portal/ENC_HOME/AREAS_OF_WORK/Implementation/Serbia/Energy_Efficiency

should be mobilized, in addition to public budget financing. It is necessary to further develop models for public private partnerships in the field of energy efficiency (including ESCOs). The activities planned under the EBRD's "Regional Energy Efficiency Programme" may significantly support these activities.

The capacities in Serbia should be strengthened in the area of policymaking in the Ministry of Mining and Energy and at the implementation (local) level and in other institutions involved in the second EEAP.

KEY INDICATORS

	2000	2009	2010
Total Primary energy Supply (Mtoe)	9,44	10,30	10,62
Net Imports (Mtoe)(or percentage)	4,59	5,86	6,86
Total Primary Energy Consumption (TPES)	12,38	15,33	16,37
Total final Energy Consumption (TFC)(Mtoe)	7,76	8,92	9,99
TFC Residential/Commercial Sector	3,68	3,80	4,58
TFC Industry	2,06	1,94	2,47
TFC Transport	1,74	2,25	1,8
Energy Intensity TPES/GDP (toe per thousand 2005 USD)	1,65	0,53	0,55
GDP in constant dollars, bus$	6,5	29,2	29,4
Population million			7,29
TPES/Population (toe per capita)			2245

SOURCE: *Background Information from Serbia Energy Strategy*

	2000	2009	2010	2011	2012
Total primary energy supply (Mtoe)	13,73	15,18	15,54	16,19	14,46
Net imports (Mtoe)	1,88	4,89	5,2	4,87	3,98
Total Final Consumption (TFC) (Mtoe)	7,14	8,79	9,48	9,78	8,35
TFC Residential/Commercial Sector (ktoe)	3,95	4,03	4,13	4,32	4,14
TFC Industry (ktoe)	2,16	1,98	2,39	2,70	2,42
TFC Transport (ktoe)	0,80	2,18	2,16	1,98	1,76
Energy Intensity TPES/GDP (toe per thousand 2005 USD) toe/1000 GDP	0,64	0,55	0,56	0,57	0,52
TPES/Population (toe per capita)	1,69	2,07	2,13	2,23	2

SOURCE: *Data taken from IEA*

South East Europe
Sustainable Energy
Policy

Supported by