

# INVESTING IN CLEAN ENERGY IN THE WESTERN BALKANS





# ABBREVIATIONS AND ACRONYMS

CEB	Council of Europe Development Bank	IEA	International Energy Agency
CEE	Central and Eastern Europe	IFC	International Finance Corporation
DFI	Development Finance Institution	IFI	International Financial Institution
EBRD	European Bank for Reconstruction and Development	IRENA	International Renewable Energy Agency
EC	European Commission	Kgoe	Kilogram of Oil Equivalent
ECS	Energy Community Secretariat	NEEAP	National Energy Efficiency Action Plan
EE	Energy Efficiency	NMS11	Bulgaria, Czechia, Estonia, Croatia, Latvia, Lithuania, Hungary, Poland, Romania, Slovenia, Slovakia
EECG	Energy Efficiency Coordination Group	RE	Renewable Energy
EED	Energy Efficiency Directive	RECG	Renewable Energy Coordination Group
EEFF	Energy Efficiency Finance Facility	REEP	Regional Energy Efficiency Programme
EEFIG	Energy Efficiency Financial Institution Group	RES	Renewable Energy Sources
EIB	European Investment Bank	SEE	South East Europe
EPBD	Energy Performance of Buildings Directive	SME	Small and Medium sized Enterprise
ESCO	Energy Services Company	TA	Technical Assistance
ESD	Energy Services Directive	UNDP	United Nations Development Programme
EU	European Union	USAID	United States Agency for International Development
FIT	Feed In Tariff	WB	Western Balkans: Albania, Bosnia and Herzegovina, Kosovo*, Montenegro, North Macedonia, Serbia
GDP	Gross Domestic Product	WBIF	Western Balkans Investment Framework
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit	WBG	World Bank Group
GGF	Green for Growth Fund	YE	Year
HUPX	Hungarian Power Exchange		

*\* This designation is without prejudice to positions on status, and is in line with UNSCR 1244 and the ICJ Opinion on the Kosovo Declaration of Independence.*

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Clean Energy is one of the three strategic areas of the Western Balkans Investment Framework, together with Infrastructure and SME Development. This publication presents WBIF's activities and achievements in this field since 2007, when it started Energy Efficiency financing.

It also focusses on specific issues and challenges of the moment and it reviews the main providers of finance for clean energy investments in the Western Balkans.

This is the fourth edition of this publication since 2011. The publication has been gradually enriched and expanded over time. The first three editions focussed on Energy Efficiency only and coverage was expanded to Renewable Energy with this edition.

# FOREWORD

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**Christian Danielsson**

Director General for European  
Neighbourhood Policy and  
Enlargement Negotiations

The EU has one of the most ambitious energy and climate policies in the world. Its clean energy transition is well underway. I am glad that benefits already can be seen in terms of greening of economies, less dependency on imported fuels, and greater domestic investments in ecologically sound approaches.

We want Western Balkans to embark on this path. They also want to decarbonise their economies, increase energy efficiency and use of renewable energy potential. In addition, they can reduce energy dependency with similar benefits as in the EU.

Working together with the Energy Community, international financial institutions and others, the EU has long been contributing to clean energy transition in the Western Balkans. It is the major donor and actor in terms of funding and policy dialogue. Over the last decade, the EU has provided more than €185 million in grants to support energy efficiency and renewable energy, ultimately attracting some €850 million in loans.

This funding has been boosting green investments by private sector companies, public institutions and households, worth altogether more than €1 billion. It brings tangible benefits to Western Balkans citizens, by improving living conditions and reducing energy bills. The EU engagement has also helped to green banking sector: some 35 local financial institutions are now ready to offer financing for green energy.

Fully tapping the clean energy potential of the Western Balkans increases energy security and improves air quality. It also boosts growth and jobs in the region. It stimulates competitiveness and helps modernise the regional economy.

The EU stands by the region in pursuing this goal.



# THE CASE FOR CLEAN ENERGY IN THE WESTERN BALKANS

The energy sector in the Western Balkans faces a unique dual transition, a challenge without any precedent in the industry: transition from centralised state-controlled systems to open and competitive markets, and transition towards decarbonisation.

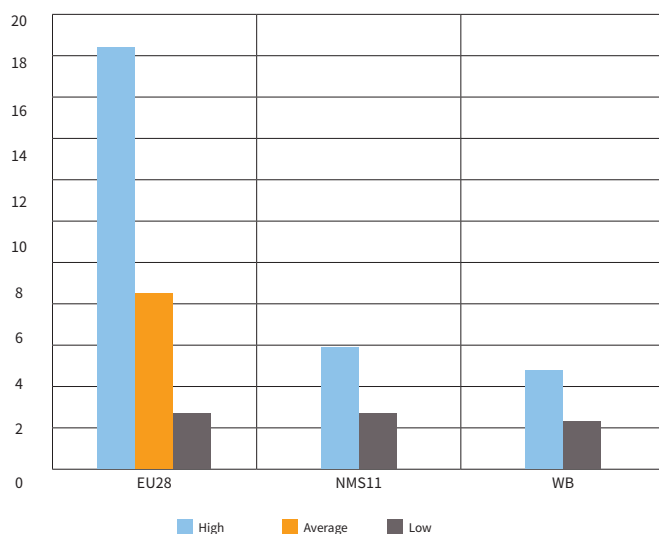
Participation in the Energy Community Treaty, which aims at extending the EU internal energy market rules and principles to countries in South East Europe and beyond, provides a clear policy framework but the task remains considerable.

In particular, the sector is characterized by limited market mechanisms and private sector participation, insufficient and aging infrastructure, high reliance on fossil fuels, late adoption of renewables beyond hydropower and residential biomass, limited energy efficiency and energy productivity,

and high rates of energy poverty despite usually high levels of direct and hidden energy subsidies (mostly targeted towards fossil fuels).

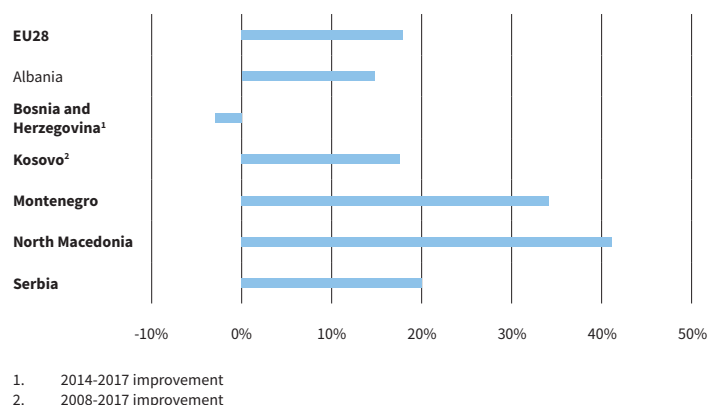
Similar to other transition economies, the Western Balkans emerged from the socialist era with low energy productivity. Significant but uneven progress was made over the past 10 years and the gap with transition economies among EU Member States is moderate. However the highest regional achiever remains at approximately half of the EU average of €8.27 / Kgoe. Montenegro and North Macedonia have improved the most at twice the average EU speed; Kosovo and Serbia have largely matched average EU progress; Albania has somewhat lagged behind; while Bosnia and Herzegovina has not shown improvement over the shorter period for which data is available.

**COMPARATIVE ENERGY PRODUCTIVITY  
WESTERN BALKANS / (EU 2017 / € GDP PER KGOE)**



Source: Eurostat

**ENERGY PRODUCTIVITY IMPROVEMENT  
OVER THE PAST DECADE**



Source: Eurostat

Further, reliance on low-grade lignite in power generation in most countries in the region adversely affects air quality, not only in the region but also in neighbouring countries, with reduced life expectancy and increased health costs as consequences. The region is home to eight of the ten most polluting plants in Europe and the sixteen coal plants located in the Western Balkans perform poorly compared to the 250 coal plants active in the European Union according to a 2016 study. The same study estimated induced annual health damages from coal plants at a minimum of €1.2 billion for the region alone. Problems are particularly acute in North Macedonia or Bosnia and Herzegovina, where Skopje, Tetovo or Tuzla usually rank among the worst cities in Europe for air quality.

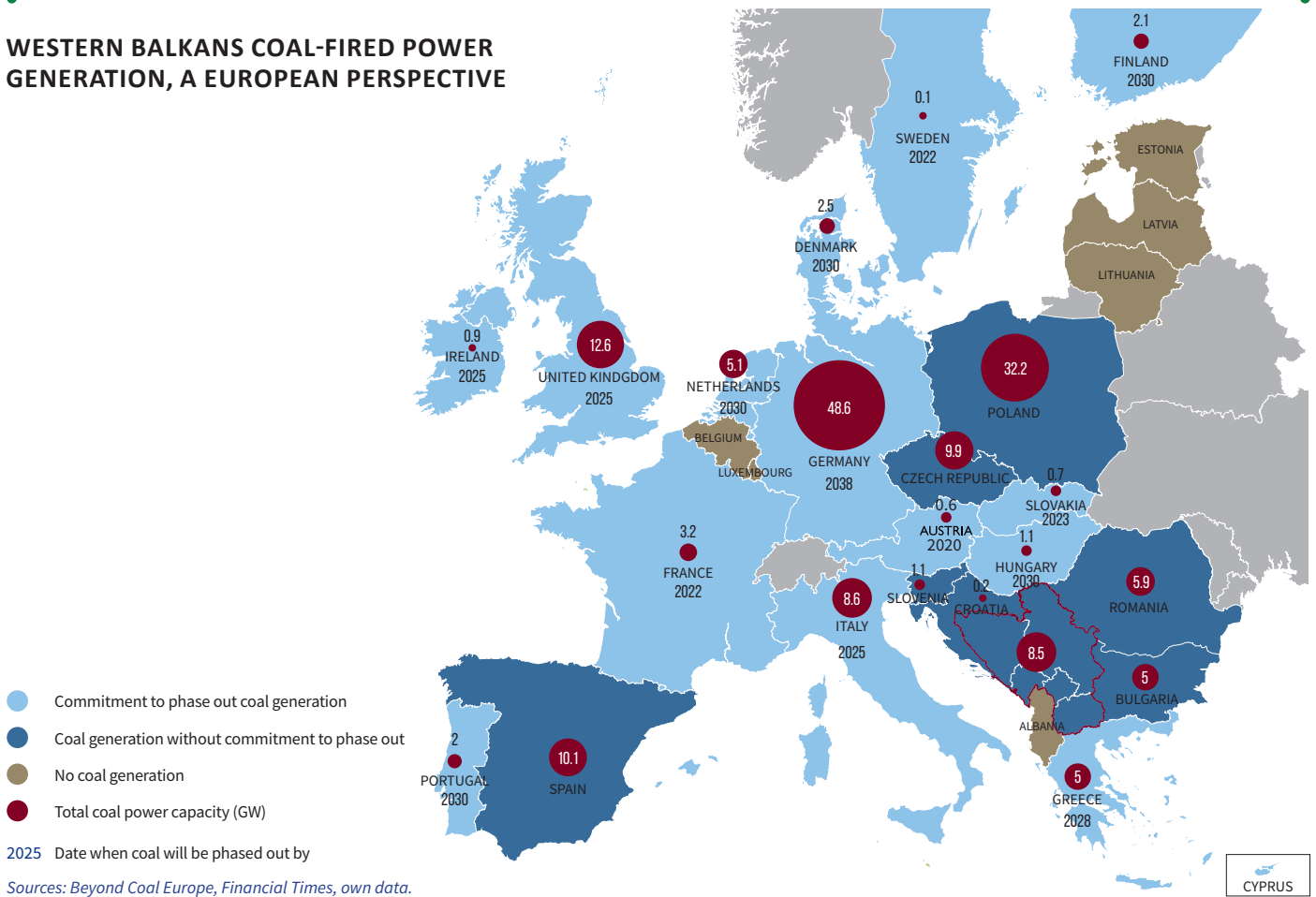
Total emissions of main pollutants by coal power plants in the Western Balkans and the EU			
	SO <sub>2</sub> (t/year)	NO <sub>x</sub> (t/year)	PM 2.5 (t/year)
EU-28*	992,248	795,358	11,946
Western Balkans**	750,893	120,012	20,188

\* Only 22 EU countries have coal power plants  
\*\* Excluding Albania where there is no coal power plant

Sources: HEAL (2017): 'Boosting Health by Improving Air Quality in the Balkans'; HEAL (2016): 'The Unpaid Health Bill - How coal power plants in the Western Balkans make us sick'; and 'Europe Beyond Coal publicly available data'



## WESTERN BALKANS COAL-FIRED POWER GENERATION, A EUROPEAN PERSPECTIVE



Although current energy consumption per capita is approximately half that in the European Union, economic development should lead to an increase in consumption, both through development of manufacturing and through increased consumption in the residential sector as comfort levels rise. Decarbonising the regional energy sector is thus all the more important to reduce emissions and improve air quality.

There is a substantial RES potential to help in the process. For instance, a recent WBIF study on Sustainable Hydropower in the region identified about 50 projects in the sector (refurbishment/upgrade/greenfield) worth further analysis. In addition, IRENA estimates that capacities of 12.2 GW of wind and 4.4 GW of solar PV could be cost competitive in the region today if the cost of capital was in line with that observed in neighbouring Croatia, Hungary and Romania. Current total generation capacity in the region is 18.6 GW, including approximately half from coal. The matter of RES is further discussed on pages 14 and 15.

However and unlike most EU countries, the Western Balkans have not committed to phase out coal yet but instead plan to add significant new coal power capacity by 2030, in contradiction with commitments under the Energy Community Treaty and increasing regulatory drift from the EU.

Action is needed in the transport sector too where the dominance of road transport and an ageing vehicle fleet are contribution to both emissions and air pollution. For instance, almost 80% of registered cars in Bosnia and Herzegovina are over 10 years old, making the country's car fleet one of the oldest in Europe. Efforts however have been limited beyond investment in Trans European Network rail corridors and bans on importing ageing second hand vehicles.

The picture is brighter for Energy Efficiency for which significant efforts have been deployed over the past 10 years and spearheaded by the Energy Community, IFIs and donors. However much remains to be done in particular in the public sector which has been set unchallenging targets for its large building stock or in the residential sector where sustained efforts started only fairly recently.

If the portfolio of projects that have received some EU support over the period is a reliable guide, these efforts have been fruitful. As a rule of thumb, the portfolio shows that €1 million in clean energy investments can be expected to generate Primary Energy savings in excess of 2,000 MWh and emissions savings in excess of 1,000 tons while sustaining employment estimated at more than 11.75 person years. A crude attempt at monetising the energy and emissions savings of this portfolio, using conservative estimates of US\$ 60 for oil price, €20 cost of 1t CO<sub>2</sub> emissions and foreign exchange at the time of writing (October 2019), shows gross returns on this portfolio in excess of 13%. This figure quite likely underestimates both EE and RE average returns as the data set includes RE investments, which also generate power sales with minimum operating expenses, but these are not quantified.

Decarbonisation and energy efficiency are often seen as costs but it is clear that they could become drivers for regional growth through (i) building up on successful energy efficiency efforts in the region which have proven their economic viability; (ii) utilisation of a large untapped renewable energy potential; (iii) addressing the policy challenge and the health costs of a large coal-fired generation sectors and (iii) the induced effect on economies of a more reliable, more competitive and cleaner energy supply as well as of a healthier population.



# THE REGIONAL COOPERATION FORUMS:

## EECG/RECG

Soon after its creation, the Energy Community recognised the need for regular and close cooperation among stakeholders on energy efficiency and renewable energy matters. Two Task Forces were established early on to focus on Energy Efficiency and Renewable Energy respectively.

The Energy Efficiency Task Force evolved in 2013 into the **Energy Efficiency Coordination Group (EECG)**, a regional coordination platform that steers the implementation of the Energy Community energy efficiency acquis. The EECG mandate has an unlimited duration in view of the challenges ahead. The Group meets generally three times per year and promotes exchange of experience and best practices. A key task is to facilitate the transposition of energy efficiency directives into national legislation and support their effective implementation. In parallel, the Energy Efficiency Coordination Group plays an important role as an initiator, coordinator and implementation partner of diverse regional technical assistance and investment programmes. In particular, the EECG was instrumental identifying the need for the REEP instrument.

The 2019-2020 work programme focuses on (i) implementation of the Energy Efficiency Directive, with an emphasis on the public sector, supply-side efficiency and financing for building renovation; (ii) implementation of the Energy Performance of Buildings Directive, with an emphasis on new requirements and certification; and (iii) Energy Labelling and Ecodesign, with an emphasis on market surveillance, analysis and transposition of the latest requirements.

The **Renewable Energy Coordination Group (RECG)** was established in 2015, with an initial 5-year mandate. The RECG steers the implementation of Renewable Energy Directive 2009/28/EC in the Energy Community and supports

Contracting Parties in reaching their renewable energy targets in the most cost-effective way. The Group meets generally twice a year and serves as a platform for sharing best practices and supporting the identification of appropriate measures to improve the renewable energy investment climate in the Western Balkans.

The 2019 - 2020 work programme focuses on (i) reform of support schemes by introduction of renewable energy auctions to comply with State aid guidelines; (ii) implementation of the Renewable Energy Directive, with an emphasis on removing administrative barriers and access to and integration with the grids; and (iii) identification of renewable energy policy objectives and framework to 2030.



*The Renewable Energy Coordination Group is a key enabler for the implementation of legal, regulatory and administrative measures needed to be introduced at various institutional levels to foster the promotion of renewable energy in the Energy Community.*

*Since its establishment in 2015, as a follow-up of Renewable Energy Task Force set-up to assist the adaptation of Renewable Energy Directive for the Energy Community in 2009, the RECG has become an active platform where stakeholders – countries representatives, IFIs, multilateral donors, renewable energy organisations, NGOs - are involved in shaping a comprehensive, stable and predictable framework to attract investments in renewable energy projects.*

*The RECG proved its value through its commitment to work and its achievements in transitioning towards cleaner energy systems with more and more energy produced from sustainable renewable sources. New set of rules and regulations are developed to support the paradigm shift in the way electricity is produced, distributed and consumed where the energy citizens are taking center stage.*



**Gabriela Cretu | Electricity and Renewable Energy Expert, Energy Community Secretariat, RECG Co-chair**





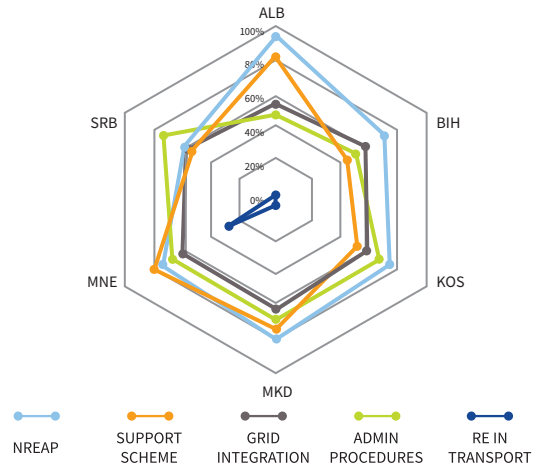
# THE REGULATORY FRAMEWORK

The Western Balkans are members of the Energy Community, whose mission is to extend the EU internal energy market to South East Europe. This necessitates the transposition and implementation of a large body of energy-related directives and regulations, including three related to Energy Efficiency and one to Renewable Energy. In addition, two recommendations on Climate Action are in place in the Energy Community in anticipation of implementation of the EU's Clean Energy Package.

The acquis on Renewable Energy consists of Directive 2009/28/EC on the promotion of the use of energy from renewable sources. The directive determines the Contracting Parties' binding national targets to be achieved through the use of renewable energy in the electricity, heating and cooling, and transport sectors by 2020. For determining the targets, a similar methodology as for the EU Member States was applied. Energy Community Contracting Parties set out in national renewable energy action plans the measures they plan to meet these 2020 targets and the optimal combination of energy efficiency measures with energy from renewable sources to achieve the 2020 objectives. Progress towards national targets is measured every two years after the national renewable energy progress reports are published.

The Directive also foresees that renewable energy, such as biofuels, electricity and hydrogen produced from renewable sources, accounts for at least 10% of the total fuel consumption in all forms of transport by 2020. The Energy Community Contracting Parties undertook the same obligation.

## RENEWABLE ENERGY IMPLEMENTATION



Source: Energy Community 2019 Annual Implementation Report

The Energy Efficiency acquis consists of the Directive on Energy Efficiency (EED-2012/27/EU), the Directive on Energy Performance of Buildings (EPBD-2010/31/EU), as well as the Regulation on Energy Efficient Products Labelling (REEPL).

The EED seeks to reduce energy consumption by 20% by 2020, with primary consumption capped at 43.7 Mtoe for WB. It calls for legally binding measures to step up efforts to use energy more efficiently at all stages of the energy chain, from production to consumption.



Measures include:

- establishment of energy efficiency obligation schemes (or equivalent alternative measures) with an obligation to reduce 0.7% annual of total volume of energy sales
- 1% annual renovation obligation of central government buildings
- promotion of energy audits
- promotion of efficient heating and cooling
- measures to enable and develop demand response, etc.

The EPBD sets minimum energy performance requirements for new and existing buildings.

The REEPL establishes a framework for rescaling of the current labels in force and the labelling of new energy related products, as well as the provision of consumer information regarding energy consumption of energy-related products.

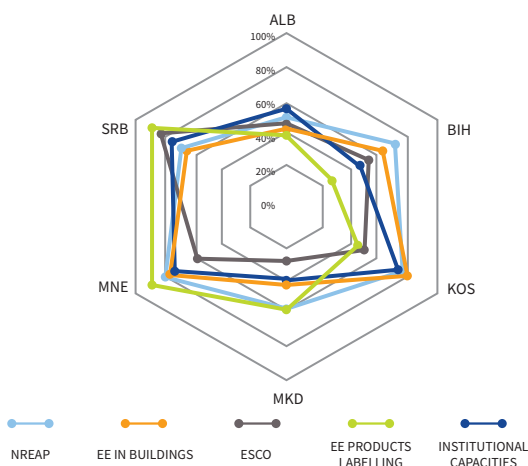
While the transposition of this acquis is largely completed in the region, implementation remains work in progress. The Energy Community assesses implementation status in both Renewable Energy and Energy Efficiency mostly as moderately advanced, except in Montenegro where implementation in both areas is deemed as well advanced.

National Renewable Energy Action Plans and national Energy Efficiency Action Plans are in place in all the Western Balkans but few are on track to reach their set targets in full. Among areas lagging behind, support schemes for RE remain based on feed-in tariffs rather than market-based competitive systems, administrative procedures for RE investment usually are rather burdensome, and an ESCO-enabling framework is usually missing with the exception of Serbia where the concept is taking off. In addition, not much has been done so far to introduce renewable energy in the transport sector.

Overall progress is being made but much remains to be done to ensure that the region's considerable renewable energy and energy efficiency potential is duly harvested. In addition, if the region is to successfully conduct decarbonisation, it must also complete its first transition from centralised energy systems to open and regionally integrated energy markets.

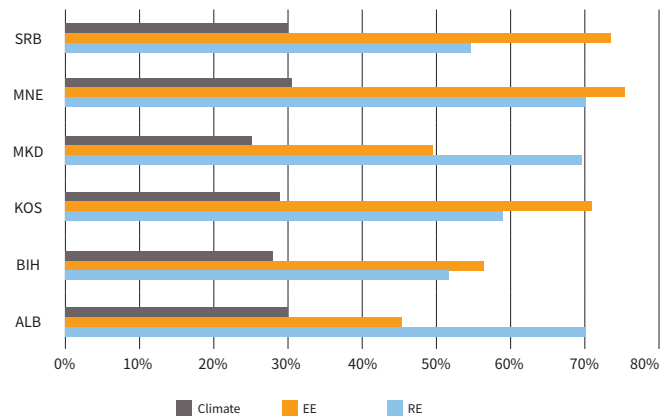
The EC, the Energy Community, the WBIF, IFIs and bilateral donors continue to provide targeted technical assistance and policy dialogue to support implementation. REEP and REEP Plus, a joint endeavour between the EU, the EBRD and the Energy Community Secretariat, have committed technical assistance in excess of €14 million, including more than €9 million provided by the EU, to support implementation in the region with a focus on NEEAPs, EPBD, ESCO development and more recently residential sector regulation.

### ENERGY EFFICIENCY IMPLEMENTATION



Source: Energy Community 2019 Annual Implementation Report

### IMPLEMENTATION SUMMARY



Source: Energy Community 2019 Annual Implementation Report



*Inspired by the Paris Agreement, the Clean Energy Package fundamentally changes the approach to energy and climate policy in Europe. The first cycle of this new policy will be implemented in the decade after 2020. In order not to be left behind, it is of utmost importance that the Energy Community Contracting Parties, including in the Western Balkans, follow suit and adopt the same approach based on 2030 targets and the legislative framework of the Clean Energy Package. Swift adoption of the Package will help the countries to master the energy transformation, to attract more green investments and to keep the ties with the European Union in the energy and climate sectors.*

**Dr. Dirk Buschle | ECS, Deputy Director/Legal Counsel**

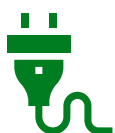




# THE EU CONTRIBUTION IN BRIEF, 2007 - 2018



PLEGGED FUNDING **€185 MILLION**  
 LEVERAGED **€525 MILLION (TO-DATE)** - **€860 MILLION (EST.)**



ENERGY SAVINGS **2.2 TWH/YEAR**  
 (ANNUAL ELECTRICITY CONSUMPTION OF 0.6 MILLION PEOPLE)



EMISSIONS SAVINGS **1.1 MILLION TONS CO<sup>2</sup>/YEAR**  
 (18 MONTHS OF ALBANIAN CAR FLEET EMISSIONS)

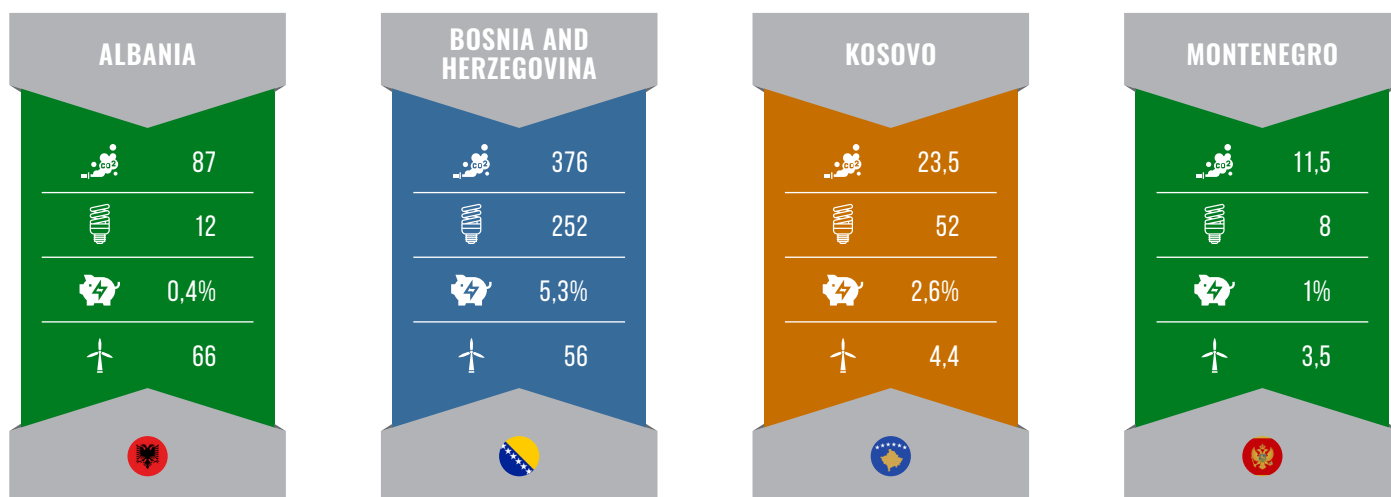


NEW RES CAPACITY: **484 MW**  
 (26% OF 2017 INSTALLED CAPACITY, EXCLUDING LARGE HYDRO)



**35 GREEN BANKS IN THE WESTERN BALKANS**

## IMPACT OF EU CONTRIBUTION PER COUNTRY



emission savings (kT/year)



energy savings (GWh/year)



Contribution to en saving national targets (%)



RES capacity added (MW)

1. This overview includes contributions to WB, Croatia and Turkey over the period 2007 - 2015, as well as the 2016 allocations to GGF and REEP Plus. Leveraged loans consist of actual and potential.

## ENERGY PRODUCTIVITY<sup>1</sup> AND RENEWABLE ENERGY<sup>2</sup> IN THE WESTERN BALKANS



1. Eurostat figures for 2017. Energy Productivity is a proxy for the energy efficiency of a country's economy. It is calculated as units of GDP generated per unit of energy consumed (€ per kg of oil equivalent). It correlates with the economy's industrialisation and mix of services and manufacturing and also reflects the attention paid to energy efficiency. Advanced economies have seen regular improvements in energy productivity: the EU figure for 2017 was €8.265 / kgoe, 18% up in 10 years.

2. Installed RES capacity 2018 (IRENA – all forms of RES)



# FINANCING CLEAN ENERGY PROJECTS IN THE WESTERN BALKANS

The transition towards Clean Energy requires large investment. The region's long term renewable energy potential for instance includes some €15 billion in hydro investments or up to €20 billion in wind investments. Energy Efficiency investment needs in the regions' building sector alone are probably in excess of €3 billion.

Clean Energy projects typically entail significant up-front spending which is subsequently recovered over a long period. Availability of long term financing to financial intermediaries with a good appreciation of the economics of clean energy investment is thus necessary to support the sector.

Donors and development institutions played a key role in opening the regional market in the past decade through the provision of long term funding, technical assistance and incentives. They still provide most of the funding available to commercial banks. Some commercial banks fund their own clean energy initiatives, usually in smaller volumes and often after an initial learning phase using IFI and donor funding and technical assistance.

With over €185 million of grants to the sector in the Western Balkans since 2007, the EU has played a key role in the development of clean energy finance in the region through three main initiatives.

**The 2007 Energy Efficiency Finance Facility (EEFF)** aimed at promoting investments in energy efficiency and renewable energy generation. EEFF combined IFI credit lines with incentives for both end-borrowers and local financial intermediaries in order to support market development. In total, EU grants worth €35 million supported some €150 million loans targeting primarily the corporate sector. This facility is now closed.

**The Green for Growth Fund (GGF)** is an investment fund created in 2009, which focuses on energy efficiency and renewable energy in the Balkans, Turkey and the Eastern

and Southern Neighbourhood regions. GGF provides direct financing to projects as well as refinancing and technical assistance to financial intermediaries active in the sector. It raises funds from donors, IFIs and private sector investors.

The EU contribution to GGF amounts to €58.6 million in risk capital (including €20 million in fresh capital contributed in 2018) and €10.8 million for technical assistance. GGF has supported approximately €320 million of loans in the Western Balkans to date.

**The Regional Energy Efficiency Programme (REEP and REEP Plus)** is a 2013 initiative managed by the EBRD and blending policy support to Western Balkan governments with loans, technical assistance and incentives to support energy efficiency and renewable energy projects in the public and private sectors. REEP operates both directly and through intermediaries.

REEP received a €20 million EU contribution and a further €3 million contribution from the WBIF at inception. In 2016, the EU committed a further €30 million to back the launch of REEP Plus to further existing activities and support a regional energy efficiency initiative targeting the residential sector. KfW joined REEP Plus at the time. In 2019, the EU has pledged an additional €30 million to expand REEP Plus. REEP and REEP Plus support approximately €300 million of loans in the Western Balkans.

*Additional information on GGF and REEP is available on pages 20 and 21.*

While the interest in clean energy is still recent and the regulatory framework incomplete, the financing offering in the region is already significant and diversified. Active facilities focusing on the region and supported by development institutions and/or donors represent cumulative funds in excess of €600 million in 2019.

## Case Study: Advertising Media Lighting in Serbia

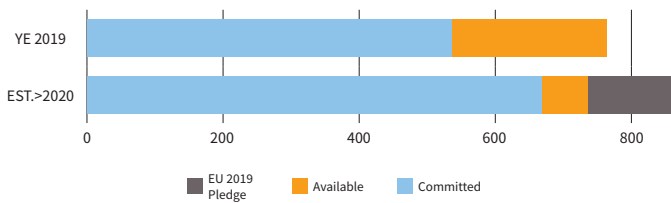
Alma Quattro is a leading outdoor advertisement provider in Serbia with over 4,300 billboards, scrollers and column across the country.

The project involved the replacement of light sources on 273 locations with newest generation LED lights. The project received a loan from an EBRD PFI and a REEP investment incentive of 10% of value.

Reduction in energy consumption and maintenance costs attributable to newer better quality equipment produce a payback period of four years only. Additional benefits include better system error control (automatic notification of malfunctions) and reduced sensitivity to power cuts.



## USAGE OF WESTERN BALKANS FACILITIES TO DATE (MILLION EUR)



Source: Own calculations

Most facilities rely on local financial intermediaries to identify and implement projects using funds provided by the facilities. Approximately 45 commercial banks or financial institutions offer energy efficiency or renewable energy financial products in the region. They target mostly the corporate, SME sector and household sectors, increasingly the public and less frequently the agricultural sector. Some facilities can also lend directly to larger projects.

The largest facilities, GGF and REEP, are regional in scope. Other initiatives usually target a single country. All countries of destination are active with volumes usually linked to population and GDP. Serbia, Bosnia and Herzegovina, and Kosovo show numerous active lenders and significant activity while countries with RES potential such as Albania, Bosnia and Herzegovina and North Macedonia make use of direct lending opportunities.

Facilities are being used at a brisk pace, with approximately €145 million left available in 2018 for new projects. In addition, a further EU pledge worth €30 million should result in additional lending capacity €120 million, which would become available in 2020.

In terms of target clients, all key groups are represented. Although the initial emphasis so far was predominantly on the corporate sector, particularly SMEs, attention devoted to the public sector or households is increasing. This is particularly welcome in view of their strong potential for realising significant energy savings. "TA has been provided to train bankers in residential EE, to raise public awareness, and to resolve public procurement issues. This has significantly contributed to positive changes in attitude.

### Case Study: Bogdanci Wind Park in North Macedonia

Standing high on the hills close to the border with Greece, the 16 turbines of Bogdanci, North Macedonia's first and thus far sole wind farm, greet visitors entering the country. This flagship success story in renewable energy was developed with WBIF TA support and KfW financing.

Since opening in July 2015, it has constantly exceeded its target output of 100 GWh and it covers domestic needs of about 60,000 people.

This success has prompted its developer, ESM, to press ahead with a second phase, comprising an additional 13.2 MW bringing total capacity to 50 MW and raising annual output to 140 – 150 GWh.



Bogdanci wind park, developed with WBIF support, North Macedonia



# RES AND ENERGY TRANSITION IN THE WESTERN BALKANS

The Western Balkans face the challenging task of meeting the obligations arising from the transposition of EU directives into the Energy Community as well as those assumed through the Paris Agreement, while they are not yet prepared to follow the EU on the decarbonisation path.

Although the current power generation situation appears favourable with hydropower accounting for approximately half of current capacity in the region, it is the rest of that capacity, almost exclusively coal (and often lignite) fired plants, which delivers the bulk of the electricity produced due to its high capacity factor. Albania, totally dependent on hydro, is an exception but it must rely on imports of high carbon content power from its neighbours when hydrology is unfavourable. In addition, the environmental credentials of several small hydro plants and projects are often challenged by residents and NGOs.

and two other plants with total capacity of 84 MW are under construction. North Macedonia did not capitalise on its early start and Bogdanci remains the only plant in the country an preparation work for a 14 MW extension has started.

Solar PV developments are still at an early stage with construction scheduled to start in Montenegro in 2020 on a 250 MW installation. In North Macedonia, the incumbent generator, ESM, is pursuing an interesting project with the construction of an initial 10 MW PV facility on the site of a disused lignite mine near a coal power station. ESM hopes to expand the size of the facility in increments up to the 125 MW capacity of the coal plant. In total North Macedonia plans to award 200 MW solar PV capacity.

Altogether, this new RES capacity coming on line or expected over the next few years is equivalent to 11% of existing non-coal capacity or 23% of planned new coal capacity, a modest start indeed.

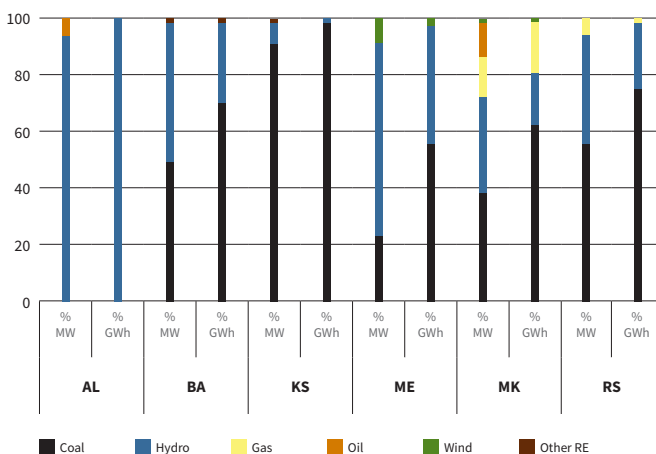
The barriers to RES development are several and include: a perception of high cost of RES power and need for subsidies; aging transmission and grid infrastructure that struggles to cope with large variable RES energy volumes; slow and unpredictable planning processes; regulatory uncertainty as most countries are transitioning towards competitive support schemes, underdeveloped day-ahead and intraday markets, limited regional market integration and a high cost of capital stemming from both the above and the lack of experience in and limited comfort with lending to the sector of the local banking sector.

With regards to the first issue, a 2019 ECS study of direct and indirect subsidies to coal-based generation in the Western Balkans found that total direct and indirect subsidies amounted to €150 million p.a. and €336 million p.a. respectively, on average over the 2015-2017 period. Indirect subsidies take the form of foregone return on capital of underperforming public generators and free CO<sup>2</sup> emissions. If these nearly €500m subsidies were integrated into production costs, the cost of coal-fired electricity would range between €52/MWh (Kosovo) and €82/MWh (North Macedonia), making these plants uncompetitive in the European markets, especially if a future carbon tax is introduced for electricity imports in the EU.

These subsidies also dwarf RE incentives paid in the region, except in Montenegro and North Macedonia, as shown by the same study (Albania is not concerned as it has no coal power plant). It evaluated RE incentives, calculated as a premium on top of electricity price. The subsidies for renewable energy have internalised de facto CO<sub>2</sub> costs and were transferred transparently to electricity end-users.

The results are presented in the graph on page 15.

**BREAKDOWN OF GENERATION CAPACITY AND OUTPUT**

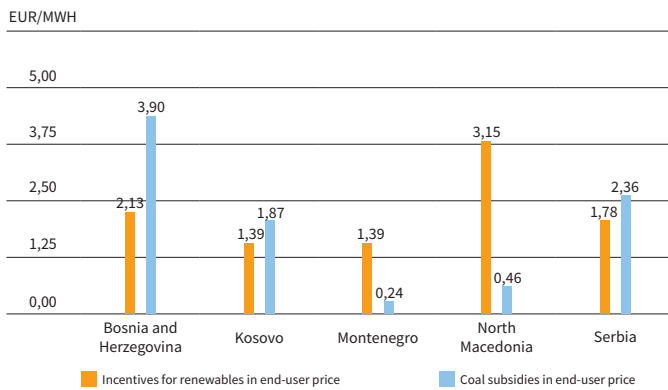


Source: EBRD, ENTSO-E 2017, own calculations

This situation is largely a legacy of post WW2 developments that sought to capitalise on existing resources in an era when environmental or sustainability considerations were not at the forefront. While most of Europe has embarked on an overhaul of its power generation sector, this is happening much more timidly in the Western Balkans, where wind and PV developments are slow and new coal plants are still being built and planned.

The main non-hydro emerging resources are primarily in the form of wind parks, and particularly in Serbia and Montenegro. Two large farms with total capacity of 262 MW entered production in Serbia in 2019. In Montenegro, a first 72 MW facility came online in 2017 while total capacity of 171 MW is at construction or planning stage. Bosnia and Herzegovina commissioned its first farm in 2018 with a capacity of 51 MW

## INCENTIVES FOR ELECTRICITY FROM RENEWABLES AND SUBSIDIES FOR ELECTRICITY FROM COAL IN 2017 END-USER PRICES



Source: Energy Community Secretariat

In the meantime, wherever wind and solar PV have been widely adopted, the decline in costs has been spectacular, especially when competition is encouraged. For instance, EBRD's experience shows that solar PV costs in Jordan have been reduced by 85% in the 4 years since the country moved from feed-in-tariffs to auctions. In Denmark or the UK where support is entirely auction based, onshore and offshore auctions now require no or minimal support. Earlier in 2019, Great Britain went for a fortnight without coal power for the first time since 1882. This transformation from coal dominance with some 600,000 coal miners in 1960 to almost coal-power free should be an inspiration for the Western Balkans.

Up until now, RES support in the region has been exclusively through feed-in tariffs and overwhelmingly directed towards hydropower. Under their Energy Community commitments, the Western Balkans are gradually moving towards competitive schemes for utility-scale projects. These schemes provide transparent means to select the projects to support and to identify the right level of support.

The benefits are obvious for utility-scale projects but not so for small scale projects given the high number of projects and the transaction costs involved.

Albania has legislated the introduction of auctions for feed-in premiums for wind and solar but implementation is lagging behind. In Bosnia and Herzegovina, the Federation of Bosnia and Herzegovina plans to introduce renewables auctions from 2021. Republika Srpska terminated feed-in tariff for

wind power plants in March 2019, leaving small hydro as the only RES receiving significant support, a move challenged by NGOs. It also plans to introduce auctions for the construction of hydropower and solar power plants by 2020.

Montenegro, which emerged as a regional leader when it managed 10 consecutive days of power generation entirely from RES in May 2019, is phasing out its FIT schemes and will stop guaranteeing prices but only provide an offtake at the HUPLEX price. A contract was signed in December 2018 for a solar farm under this principles and two wind projects are expected to follow.

North Macedonia is introducing electronic auctions for larger projects but small hydro projects with a capacity under 10 MW remain eligible to feed in tariffs. In Serbia, FIT were extended for another year until the end of 2019 while it is developing an auction system.

Cost of capital is also proving a substantial but addressable barrier. A 2017 study from IRENA found that based on 2016 data, lowering the cost of capital from 12% to 8% would raise the regional cost competitive wind and solar PV potentials from 4.4 to 12 GW and from 0 to 4.4 GW respectively.

In the meantime, costs of debt and equity for wind projects in Serbia were estimated at 4.6 % and 14.5% respectively in 2019 by Agora Energiewende and SEE partners. Financing costs in Germany are 1.6 and 5.4% respectively. The proposed EU Guarantee Instrument for the Western Balkans may find a role in helping bringing these all important costs down and help secure the future of RES in the region.

Finally, technology advances and increasing retail power prices are offering consumers the option to produce part of the electricity they consume instead of purchasing it from a supplier. These "prosumers" participate directly in energy transition and help meet RE targets, reduce network losses and peak loads, increase energy efficiency, improve demand response and contribute to CO2 emissions reduction.

So far only Albania has adopted rules on electricity self-consumption but the rules remains to be implemented in practice. There is lack of comprehensive legislation and regulatory framework in relation to small scale renewable installations for self-consumption purposes in the Western Balkans Contracting Parties and the RECG has started the assessment of the changes needed that have to be considered to make self-consumption schemes fully operational and drive the energy transition.





# FINANCING PUBLIC SECTOR

## ENERGY EFFICIENCY INVESTMENT

The Western Balkan public sector is the third largest sector in the economy. Through its large building stock or its continued involvement in public transport, it consumes significant amounts of energy. The lack of sustained investment over the past decades means that many of those assets are aging and increasingly inefficient. The public sector in the Western Balkans thus offers considerable opportunities for energy, emissions and ultimately cash savings. For instance, the energy savings potential for public buildings is as high as 40%, provided that buildings are renovated to meet the minimum energy performance requirements set in the EPBD. The potential however remains to be tapped, primarily for lack of public financing capacity.

The scale of the task is considerable, largely due to a legacy of underinvestment by the former Yugoslavia and subsequent capital depletion. For public buildings, based on 2014 estimates of stocks in the region prepared for the impact assessment of the EED in the Energy Community and on estimates of energy renovation costs under the EPBD in Bulgaria, the costs could range between € 1.2 billion and 1.6 billion for central government buildings only and between

€ 3.2 billion and 4.3 billion for all public buildings. With regards to public transport, networks are underdeveloped and the existing vehicle fleet is usually old, fuel inefficient and polluting. Public lighting networks as well have until recently seen minimal investment to capture the benefits of modern lighting technology.

In addition, concerns about the size of the challenge in the building sector led the Energy Community's Contracting Parties to reduce their obligations at a modest 1% annual renovation target when transposing the EPBD, compared to 3% target in the EU. Unless the target is exceeded, capturing these savings will be postponed to the very long term.

This slow pace likely accommodates estimated sovereign/municipal financing capabilities, which remains the prime financing sources. Public finance can play a role in supporting capital intensive long payback deep EE renovation of the public building stock; IFIs and donors are key to bridge capacity gaps by supporting project development and implementation support.



*Public Lighting Modernisation in Serbia*

### **REEP Case Study: Public Lighting Modernisation in Serbia**

As cities generate 75 percent of global energy consumption and 80 percent of greenhouse gas emissions, they have a huge potential for EE. The Municipality of Boljevac, in eastern Serbia, has a population of approximately 15,000 in 20 settlements. It has decided to bring its contribution to reaching Serbia's energy savings target of 9% and opted to introduce energy efficient street lighting. In addition, this project was viewed as a sound investment and a mitigation of expected increases in electricity prices over the coming years.

The project involved the replacement of 2,167 light sources of various technology (fluorescent, sodium, halogen and spotlights) with new efficient LEDs. The project received a loan from an EBRD partner financial institution and a 15% REEP investment incentive. An 82% reduction in electricity consumption together with lower maintenance costs result in a 2.5 years payback period and annual CO2 emissions savings of 475t. In addition the municipal budget gained valuable headroom.

It is however clear that ingenuity will be required to overcome limited fiscal space and project skills in the public sector and accelerate the pace. In particular, it will be essential to involve private sector skills and finance in rapid deployment projects which generate tangible measurable savings, like street lighting.

A first initiative to that effect started in 2013 and continues under REEP and REEP Plus. Grants totalling € 8 million have been allocated to promote the ESCO concept in the region, first by supporting the development of the necessary enabling legislation and second by supporting projects and tenders preparation.

An ESCO is a company that provides integrated energy services to its customers with performance and savings guarantees. Its remuneration is directly tied to the energy savings achieved. It will deploy energy savings measures using primarily loan finance or equity, with debt service funded from savings.

REEP has produced 25 ESCO-supporting policy deliverables in the Western Balkans, including primary and secondary legislation, model contract templates, and standard transaction documents. A pipeline of public sector investments in excess of €100 million has been developed with impressive achievements in Serbia (33 street lighting projects approved), positive developments in Bosnia and Herzegovina and North Macedonia (12 potential street lighting projects) and initial discussions in Albania and Kosovo.

In addition, GGF has also developed capabilities to support and finance ESCOs and provides to municipal entities financing mechanisms that are complementary to government financing.

Longer term, the sheer volume of investment required in the public sector will necessitate continued private sector involvement, new financial instruments, and access to capital markets. Local financial institutions have limited experience in financing these projects in the region due to this being a relatively new sub-sector and perceived higher risk of the transactions. The launch of a new guarantee scheme as part of the Western Balkans Investment Framework (WBIF) will create the enabling environment for scaling up investments in this sector.



### Case study: Rehabilitation of student dormitories in Albania

The student dormitories in Albania are often in an appalling condition. Due to lack of resources for maintenance, they are deteriorating while at the same time are expensive to heat and provide sub-standard living conditions to students, which are not supporting academic excellence. The German Government through KfW has recognised the need. After a first initiative, a large scale rehabilitation in the sector is in process.

Through WBIF, significant scaling up becomes possible by leveraging a €4.9 million REEP investment with a €20 million loan and a €1 million TA grant by German Government through KfW. Based on previous similar projects, energy savings of 45% (and the related emission savings) are expected from a combination of measures such as envelope insulation, doors and windows replacement and solar water heaters deployment.

In addition, the support of the EU and the German Government enables a comprehensive and deep refurbishment of the student dormitories as KfW promotes a ‘holistic refurbishment approach’ to not only improve EE performance but also to extend the lifetime of the building and improve the overall living and working comfort.



# COUNTRY FOCUS - NORTH MACEDONIA: SET FOR SURGE IN RENEWABLE ENERGY

In a country with an energy sector characterised by a legacy of fossil fuel reliance, significant electricity imports, fairly high energy intensity and a recurring air quality issue (Skopje was Europe's most polluted capital city in 2018 according to the WHO Ambient Pollution Database), Clean Energy is a must.

Despite a strong potential in hydro, wind and solar and an early start with the pioneering WBIF-supported Bogdanci wind farm, North Macedonia has seen limited investment in renewable energy in the past decade, beyond a sometimes controversial hydro program (several NGOs point out persistent flouting of environmental regulations by operators, blamed on lax supervision and enforcement of regulations).

The country has instead focussed its clean energy efforts on energy efficiency and reached creditable achievements in this field in the region, although much remains to be done and awareness remains generally low. NGOs say not enough emphasis is being placed on relatively simple, low-tech measures such as basic insulation of homes. *“If you go around the country, you see in the villages that 70% of houses don't have a facade, they don't have any insulation on the walls. This is a major problem,”* says Ana Colovic Lesoska, of the environmental protection group Eko-svest. Todorka Sajkova, head of marketing and communications at Sparkasse Bank, a bank active in financing residential EE investments, concurs that *“citizens have to be better educated about saving energy, which is still on a very low level in Macedonia. There is a lot of work [to be done] in raising awareness.”*

North Macedonia however is on the cusp of a new wave of renewables projects, including wind, photovoltaic and biogas, along with a variety of hydro schemes. Perhaps the most significant current development is the on-going procurement for the installation of 62 MW of new photovoltaic capacity. These tenders have been astutely structured to address some of the usual barriers to investment, including through the provision of public land in plots of various size, and the guarantee of attractive prices for grid connection. In line with North Macedonia's commitment under the Energy Community, public support will be structured as a feed-in premium system, rather than feed-in tariffs.

These tenders, together with separate projects by ESM the incumbent generator, should quadruple PV capacity to 90 MW (more than 10% of the thermal capacity) and form the first phase of a project to boost solar-PV capacity by 200 MW over the next 3-4 years. In the meantime, ESM is also working on expanding the capacity of its Bogdanci wind park by 14 MW. Altogether, this would bring RES to over 50% of installed capacity in the country.

When questioned on the challenges of integrating these intermittent solar and wind capacities in the transmission grid, Borko Aleksoski, director of the Transmission System Operator MEPSO is confident that *“another new 100 or 200*

*MW [of renewable capacity] would not be a problem.”* This flex however could be exhausted with the current pipeline of projects but solutions exist to support more RES capacities.

In particular, Dragan Minovski, GM of ESM, stresses the need for a long-planned 400 MW pump-storage scheme at Chebren, on the Crna River. This would provide the quick-acting reserve requirements for balancing the grid as additional PV and wind capacities are added to the system. *“With Chebren and other hydro power plants in our portfolio, we will then have the possibility to install huge additional renewable energy [ie PV and wind] sources in our portfolio”* says Mr Minovski. If given the go-ahead, Chebren could be in production within a seven to ten year time frame, argues Mr Minovski. But the project is not without challenges, from costs (in excess of €500m under current estimates) to environmental factors to concerns over changes in weather patterns (in late spring of 2019, North Macedonia's reservoirs were only around 40% full, well below historical seasonal levels).

## Impact of EU supported Clean Energy Finance Facilities (to YE 2018)

Value of projects	€149 million
Number of beneficiaries	6,484
Annual Primary Energy savings	280,700 MWh
RES Capacity added	41 MW
CO2 Emissions annual savings	154 Kt
Contribution towards 2018 NEAP targets	13.7%



*Bogdanci wind park, developed with WBIF support,  
North Macedonia*

## Biogas Case Study

### the entrepreneur, the chickens and electricity

With a production of 8GWh in 2018, Elektro Sharri supplies only a miniscule proportion of North Macedonia total. But the country's first operational biogas generator, which has been feeding the national grid almost uninterrupted since first going live in February 2015, illustrates what can be achieved - and potentially replicated elsewhere - given the entrepreneurial will and right regulatory circumstances.

Elektro Sharri is one element of an integrated egg-poultry-generation-fertiliser business founded by Arben Abdurahmani. Mr Abdurahmani left home in 1992 aged 17 to seek his fortune in Germany. He returned a decade later to establish a modern egg and poultry farm, in a joint venture with his former German boss, in his home village of Trebosh, near Tetovo.

The generation unit, a EUR 6.5m investment, is the logical extension of the original project, and converts the chicken litter and silage, plus waste from the wine and brewing industries into methane. This in turn, fuels a gas engine driving the alternator. Electricity is sold to the grid under a feed-in tariff.

A modest capacity for the plant was picked to better navigate untested regulatory terrain. Naturally, should bids be invited for further biomass capacity, Elektro Sharri would be keen to participate. Moreover, the chicken houses were built with roofs ready to support photovoltaic panels, thereby creating up to another 370 kW generation capacity. But installation has been delayed pending more transparent regulations.

## Case Study

### Eco Loan to result in “significant decrease” in electricity bills

When Branko Petkovski first heard about specialised loans to help home owners make energy saving modifications to their property, his interest was piqued. Mr Petkovski, a retired 65-year old, has a comfortable 120 sqm home in the village of Petrovec, about 15 kilometres south-east of Skopje.

But the two-storey house, built from brick and lightweight concrete had a cavity-wall design, offering poor thermal insulation. As a result, his electricity bills were burdensome – averaging MKD 4,500 (some EUR 75) a month during winter, and close to half that in summer.

After assessing offers, Mr Petkovski opted for a design offered by Bulart Construction, a Skopje-based company that prides itself on energy-efficient and environmentally friendly solutions for buildings. His choice included a decorative mortar facade, and installation of fire-resistant gypsum board and thermal insulation in the air cavity. The project was funded with an Eco Loan from Halkbank, a long time partner of the Green for Growth Fund, for EUR 3,200 in May, 2019.

The result, he says, could hardly be bettered. *“They finished the total project in about a month. I’m totally satisfied with their proficiency and expedition. My house has a more beautiful façade, and the thermal insulation during both winter and summer will be very useful. According to my calculations my EVN [electricity] bills will significantly decrease.”* he says.

Crucially, he adds the project would not have been feasible without the Halkbank Eco-loan. *“They disbursed my loan in the shortest time. We transferred the money to the construction company and they started work the next day. I can recommend the bank to all my friends.”*



Key Data – Electricity Sector - North Macedonia

2018	Capacity MW	Share of Capacity	Share of Production
Thermal	1,034	50%	50%
Hydro (large)	587	28%	27%
Hydro (small)	106	5%	7%
CCHP	287	14%	13%
Wind	36.8	1.8%	1.8%
Solar PV	18.5	0.9%	0.4%
Biogas	7.0	0.3%	1.0%



# MAIN PROVIDERS OF FINANCE IN THE WESTERN BALKANS

## Green for Growth Fund (GGF) | [www.ggf.lu](http://www.ggf.lu)

GGF was initiated by EIB and KfW in December 2009, for an unlimited duration, to promote energy efficiency and to reduce CO2 emissions in its target region. GGF's investments seek to achieve a 20% reduction in energy consumption and/or a 20% reduction in CO2 emissions. It is the first specialised fund focussing on energy efficiency (EE) and renewable energy (RE) in Southeast Europe. It complements existing programmes and funding sources and contributes to further innovation in financing and expanding the industries in Southeast Europe.

GGF is a public-private partnership involving donor agencies, international financial institutions and private institutional investors. The fund is supported by EIB, KfW, IFC, the German Federal Ministry of Economic Cooperation and Development, EBRD, Netherlands Development Finance Company (FMO), Oesterreichische Entwicklungsbank AG (OeEB), several private institutional investors, and the European Commission.

With committed capital in excess of €600 million in 2019, GGF is the largest Clean Energy finance facility in the region. Its geographic scope has progressively broadened from the Western Balkans to include the Eastern Neighbourhood, and more recently North Africa and the Middle East.

GGF provides refinancing and technical assistance to financial institutions (local commercial banks, non-bank financial institutions such as microfinance institutions and leasing companies, etc.) providing loans to households, businesses, municipalities and public sector for EE measures or RE projects. In addition, GGF can provide direct financing to RE projects, including solar, small hydro, small wind, biomass, etc.

So far, GGF has invested a total of €316 million in energy efficiency and renewable energy projects in the Western Balkans, reaching over 21,000 beneficiaries and generating emission reductions of 340 KtCO2 pa and energy savings of 1,124 GWh pa in the process. GGF has 18 partner financial institutions in the Western Balkans.

GGF is currently investing from an additional €20 million contribution received from the EU in 2018, which will support up to €100 million in new Clean Energy investments in the Western Balkans until 2021.



*The Green for Growth Fund (GGF) has been widening its outreach in the Western Balkans to improve energy efficiency in key sectors. Taking a holistic approach, the GGF goes beyond providing targeted loans via financial institutions and plays an active role in building the green economy ecosystem. From spreading energy efficiency awareness among Kosovo households, to engaging microfinance institutions in Bosnia and Herzegovina in green leasing, the GGF is going the extra mile to develop the demand for energy efficiency at the grassroots level as well as helping its partners create the right products to respond to this demand. Since its inception, the GGF has supported energy efficiency and renewable energy loans worth EUR 316 million in the Western Balkans, while the fund's investments in the region currently save 1,124 GWh of primary energy and around 340,000 tons of CO2 emission every year; and the GGF continues its efforts to enable the Western Balkan economies to become greener and more efficient.*



**Olaf Zymelka | Chairman of the Board, Green for Growth Fund**



## Regional Energy Efficiency Programme (REEP & REEP Plus) | [www.wb-reep.org](http://www.wb-reep.org)

In 2013, with the support of the European Commission and in partnership with the Energy Community Secretariat, the EBRD established the Regional Energy Efficiency Programme (REEP) for the Western Balkans. In 2016, the program was extended to focus on the specific challenges of the buildings sector (REEP Plus).

REEP/ REEP Plus is an integrated package of bank financing, EU incentives, other donor funds for technical assistance (TA) and policy dialogue, structured around several “windows” of activities:

1. **Policy dialogue** activities aim to address country-specific barriers to energy efficiency investments. To-date, more than 38 policy outputs have been delivered to the relevant national authorities, including primary legislation and bylaws, strategic documents, as well as software tools and trainings that support policy implementation. Ongoing assignments focus on support for the Energy Efficiency Directive (EED) and Energy Performance of Buildings Directive (EPBD) transposition. Furthermore, policy and technical support is provided for preparation of public tenders for Energy Service Companies (ESCOs).
2. **Credit lines** complemented with technical assistance and investment incentives are provided through local financial institutions (FIs). Two EBRD products are currently available.
  - *Western Balkans Sustainable Energy Financing Facility (WebSEFF)* – €117 million financing complemented with €14.5 million grants for technical assistance and incentives by the EU and other donors. The facility targets SMEs and public sector investments for energy efficiency and small-scale renewable energy projects.
  - *Green Economy Financing Facility (GEFF)* - €85 million financing complemented with € 22.5 million of EU incentives and other donor financing for technical assistance and investment incentives targeting energy efficiency investments for the residential sector (individuals, housing associations, producers, suppliers and vendors of energy efficient equipment and service providers such as facility management companies).

A new credit facility of €50m for SMEs and public sector on-lending managed by KfW was also introduced in 2018. It has already signed 4 partner FIs, which have reached nearly 400 beneficiaries with loans of €11 million.
3. **Direct lending facility** of €80 million targets mid-size private sector sustainable energy projects, including renewables and ESCOs. To date, REEP has financed six renewable energy projects for a total of €25.9 million).
4. **Direct public sector finance** of €20 million of financing and €2 million of investment grants targeting energy efficiency in public buildings. Beneficiaries include state, cities or municipal companies.



### REEP Case Study: Direct Lending to Public Sector in Bosnia and Herzegovina

The cantonal hospital in Zenica (Bosnia and Herzegovina) was built 60 years ago. It serves more than 300,000 patients a year. Without any major refurbishment since opening, the hospital is cold in winter and very hot in summer. It is also highly energy inefficient and is the city's second largest air polluter. In addition, autumn rains pouring from the hill above often flood the lower level rooms.

The project involves improvements to the building envelope (wall/roof insulation and door/window replacement), the installation of efficient gas boilers (replacing lignite fired ones), rehabilitation of the heat distribution system and introduction of adequate central ventilation and cooling systems.

The investment is funded by a 10 million EBRD loan and a 1 million WBIF investment grant. It will result in energy savings of more than 60 % and reduction of CO2 emissions by up to 80 %, while offering a better service.







### **European Bank for Reconstruction and Development (EBRD) | [www.ebrd.com](http://www.ebrd.com)**

The EBRD works with the private sector, municipalities and public institutions to build low-carbon and resilient economies. Its business model combines investments, policy reform advisory services and technical support. Since 2006, the EBRD has signed over €2.6 billion in green investments, financed over 200 green projects and reduced over 4.5 million tonnes of carbon emissions each year in the Western Balkans. Sustainable energy is at the core of the Bank's efforts to contribute to Paris Agreement goals and EU clean energy targets. Energy efficiency and renewable energy are central to flagship programmes and initiatives, such as the Regional Energy Efficiency Programme (REEP/ REEP Plus), Green Cities Action Plans, and Low-Carbon Development Pathways for selected industry sectors. The EBRD is also an investor in the Green for Growth Fund.



### **European Investment Bank (EIB) | [www.eib.org](http://www.eib.org)**

The EIB is active in the energy efficiency and renewable fields in the region through dedicated credit lines to financial intermediaries, direct financing of projects, and through its global loans. Further, EIB also participates in the 2007 Energy Efficiency Finance Facility, with intermediated lending operations in Croatia and Turkey. EIB is a founder and the second largest investor in the Green for Growth Fund.



### **KfW | [www.kfw-entwicklungsbank.de](http://www.kfw-entwicklungsbank.de)**

On behalf of the German Federal Government, KfW supports the drive of countries in South Eastern Europe for social and economic change. Energy efficiency and renewable energy are important components of KfW's programmes in its partner countries in the region. KfW seeks to tap into the region's considerable renewable and efficiency potential by targeting public buildings, district heating facilities, renewable energy (primarily small hydro plants, wind farms, biomass facilities) and the private sector (commercial and residential) through intermediaries. Current operating facilities amount to approximately €130 million and some facilities benefit from EU support. In particular, KfW joined REEP Plus to offer intermediated credit lines for SMEs and the Municipal sector under Window 2. In addition KfW is a founder of and the largest investor in the Green for Growth Fund.



### **World Bank Group | [www.worldbank.org](http://www.worldbank.org)**

The World Bank is providing investment and technical assistance support to help scale-up energy efficiency investments throughout the Western Balkan region. Current TA efforts have resulted in all six countries either having adopted or working on sustainable EE financing and implementation schemes. These efforts are further complemented by World Bank investment projects supporting the establishment and operationalization of sustainable EE financing/ implementation mechanisms for the public buildings sector – projects are ongoing in Bosnia and Herzegovina, Kosovo and Serbia, and in advanced preparation stage in North Macedonia and Kosovo (additional financing). EE financing and implementation mechanisms supported through the €160 million EE investment portfolio (ongoing and planned projects) in the Western Balkans include customized budget capture models, revolving debt financing mechanisms leveraging on achieved energy cost savings, EE Revolving Funds using energy service agreements and result-based EE financing supporting national-level EE programs. IFC, a member of the World Bank Group, is an investor in the Green for Growth Fund.



*Investments in energy efficiency are at the core of EBRD's mandate and are critical in the Western Balkans region where energy intensity is around three times higher than the average for the European Union. Our partnership with the EU and the Energy Community Secretariat in the Regional Energy Efficiency Programme (REEP) has been very successful in transforming market conditions in the region and in developing and implementing related investments. REEP's integrated package of targeted policy dialogue, technical assistance and financing have delivered so far outstanding results for SMEs, residential and public sector. We see huge potential for introducing energy efficiency in buildings (residential and public) and the EBRD will continue supporting these investments under REEP. The EBRD is also stepping up its support to municipalities through its Green Cities programme, offering finance and advice to cities to address their most pressing environmental challenges through planning and targeted investments. So far, twelve cities in the region have joined the programme and are in the process of developing green cities action plans to identify and prioritise investments.*



**Zsuzsanna Hargitai | EBRD, Regional Director Western Balkans**



# MAIN PROVIDERS OF TECHNICAL ASSISTANCE IN THE WESTERN BALKANS

## Gesellschaft für Internationale Zusammenarbeit (GIZ) | [www.giz.de](http://www.giz.de)



GIZ is an active TA providers in the Western Balkans, either through bilateral or multi-beneficiary programmes, with current commitments in excess of €20 million. The main multi-beneficiary programme is the Open Regional Fund for South East Europe – Energy Efficiency (ORF-EE), which promotes regional cooperation among stakeholders to drive the reform process in the energy and climate protection sector. ORF-EE supports the building of regional networks for sharing expertise and experience, including the Network of Energy-Efficient Capital Cities in South-Eastern Europe, or the Network of Schools of Political Studies in South-Eastern Europe, which helps strengthening Public Policy Dialogue on Sustainable Use of Energy in SEE.

Further GIZ, in cooperation with the Energy Community Secretariat, intends to facilitate continued, deepened, and strengthened cooperation between the Western Balkan Contracting Parties of the Energy Community to support sustainable development, especially in regard to integrating energy and climate change policies into national development strategies and plans in the countries to enhance each country's ability to achieve its objectives and mandate.

## United Nations Development Programme (UNDP) | [www.undp.org](http://www.undp.org)



UNDP promotes investment in energy efficiency, renewable energy, and sustainable transport by reducing policy, regulatory, legal and financing barriers; raising awareness; promoting energy efficiency in public and residential buildings, energy efficient lighting, and energy-efficient standards and labels; and developing and supporting new financing mechanisms and structures.

UNDP also supports national partners in the region to develop low emission development strategies and mitigation actions through guidance, training and assistance to access and mobilise finance. UNDP cooperates with the Global Environment Facility to implement projects.

UNDP is primarily active in Albania, Bosnia and Herzegovina, Kosovo, Montenegro and Serbia with active programmes in excess of \$40 million.

## United States Agency for International Development (USAID) | [www.usaid.gov](http://www.usaid.gov)



In the energy field, USAID aims at expanding access to modern energy services and it supports policy, legal, regulatory and commercial reforms in the region with programmes in Albania, Bosnia and Herzegovina, Kosovo and the former Yugoslav Republic of Macedonia. USAID closely cooperates with the EECG and its support focusses on EE in buildings. Active programmes in the region are in excess of \$20 million.



*Integrated energy and climate planning will be crucial to set the path for a sustainable development. It requires a systemic approach of cooperation and coordination across ministries and with a wide range of stakeholders. GIZ will support Albania, Bosnia and Herzegovina, Kosovo, Montenegro and North Macedonia to develop National Energy and Climate Plans as required.*

**Ilka Starrost | GIZ Project Leader**





## Western Balkans Investment Framework (WBIF) | [www.wbif.eu](http://www.wbif.eu)



The WBIF is a key source of finance for infrastructure project preparation and implementation in the region. WBIF offers grants that are blended with loans. So far WBIF has funded 26 EE/RE projects in an amount in excess of €35 million. Most of the funding was for project preparation technical assistance.

## World Bank Group | [www.worldbank.org](http://www.worldbank.org)



The World Bank is providing technical assistance to help scale-up energy efficiency investments throughout the Western Balkan region. Current efforts focus on developing and operationalizing sustainable EE financing mechanisms for the public buildings sector. The World Bank – with the support of the Energy Sector Management Assistance Program (ESMAP) – has embarked on a multi-year technical assistance program, aimed at informing the design of customized revolving EE financing mechanisms in the Western Balkans and building related local capacity. To date, more than 200 practitioners have attended tailored regional and country-specific workshops and trainings on sustainable EE financing. By now, the Western Balkans have either adopted or are working on sustainable EE financing and implementation schemes.



*Technical assistance has played a vital role in the progress achieved so far in the clean energy field in the Western Balkans. Regulatory framework and project development are the most visible targets for technical assistance but capacity building in the public sector, especially the severely under-resourced specialist ministerial departments and agencies, is essential to secure these achievements and the needs there are considerable.*

*The effectiveness of technical assistance is greatly enhanced by coordination among donors and actors. The regional cooperation platforms of the Energy Community Secretariat, EECG and RECG, have taken the lead in coordinating among beneficiaries, donors and IFIs, promoting best practice, and identifying and quantifying needs.*

**Violeta Kogalniceanu | Energy Efficiency and Infrastructure, Energy Community Secretariat**



### Building energy efficiency awareness among Kosovo households

For GGF, promoting EE goes beyond making green finance available to its partner institutions. Building awareness about the impact of the efficient use of energy from the grassroots level up and creating a demand for green credit is also essential. A recent example is the ‘Eco-Loan’ marketing campaign of KEP Trust, a GGF partner in Kosovo, implemented jointly with the GGF TA Facility.

Under the tag line ‘Invest Today to Save Tomorrow’, the campaign sought to make home owners aware of the enhanced comfort and savings in energy bills resulting from measures like replacing windows and installing insulation. It covers multiple TV and radio channels, social media, as well as direct marketing, and targets both urban and rural communities.

Housing is Kosovo’s largest energy-consuming sector and offers a savings potential of about 45% of its current consumption. Through the GGF’s holistic approach to promoting green finance, significant awareness has been generated about improving energy efficiency in households and availability of microloans for this purpose and it increased loan demand from GGF’s partners.



# SOURCES OF RETAIL FINANCE IN THE WESTERN BALKANS

INSTITUTION	TARGET MARKET	PARTNER DFI	WEBSITE
<b>ALBANIA</b>			
<b>BKT</b>	SMEs & RE projects, residential	GGF	<a href="http://www.bkt.com.al">http://www.bkt.com.al</a>
<b>Fondi Besa</b>	Residential	EBRD/ GEFF	<a href="https://fondibesa.com/">https://fondibesa.com/</a>
<b>Procredit Bank</b>	Households & SMEs	-	<a href="https://www.procreditbank.com.al/">https://www.procreditbank.com.al/</a>
<b>Union Bank</b>	Residential	EBRD/ GEFF	<a href="https://www.unionbank.al/">https://www.unionbank.al/</a>
<b>Credins Bank</b>	Residential	IFC (TA)	<a href="https://bankacredins.com">https://bankacredins.com</a>
<b>NOA Microfinance</b>	Residential &SME	IFC (TA)	<a href="https://www.noa.com.al">https://www.noa.com.al</a>
<b>BOSNIA AND HERZEGOVINA</b>			
<b>LIDER</b>	Households	GGF	<a href="https://lider.ba/">https://lider.ba/</a>
<b>MI-BOSPO</b>	Households	GGF	<a href="https://mi-bospo.org">https://mi-bospo.org</a>
<b>Mikrofin</b>	Households & small agri-businesses	GGF	<a href="https://mikrofin.com/">https://mikrofin.com/</a>
<b>NLB Banka Banja Luka</b>	SMEs	GGF	<a href="https://www.nlb-rs.ba/">https://www.nlb-rs.ba/</a>
<b>Partner</b>	Households	KfW	<a href="https://www.partner.ba/">https://www.partner.ba/</a>
<b>Partner</b>	Households	GGF	<a href="https://www.partner.ba/">https://www.partner.ba/</a>
<b>Partner</b>	Residential	EBRD/ GEFF	<a href="https://www.partner.ba/">https://www.partner.ba/</a>
<b>Procredit Bank</b>	SMEs	-	<a href="https://www.procreditbank.ba">https://www.procreditbank.ba</a>
<b>Raiffeisen Bank</b>	SMEs & residential	KfW	<a href="https://www.raiffeisenbank.ba">https://www.raiffeisenbank.ba</a>
<b>Sparkasse BiH</b>	Residential	EBRD/ GEFF	<a href="https://www.sparkasse.ba">https://www.sparkasse.ba</a>
<b>Sunrise</b>	Households & SMEs	GGF	<a href="https://microsunrise.ba/">https://microsunrise.ba/</a>
<b>UniCredit Bank Banja Luka</b>	Households & SMEs	GGF	<a href="https://www.unicreditbank-bl.ba">https://www.unicreditbank-bl.ba</a>
<b>Unicredit Bank Banja Luka</b>	Residential	EBRD/ GEFF	<a href="https://www.unicreditbank-bl.ba">https://www.unicreditbank-bl.ba</a>
<b>Unicredit Bank Mostar</b>	Residential	EBRD/ GEFF	<a href="https://www.unicredit.ba">https://www.unicredit.ba</a>



INSTITUTION	TARGET MARKET	PARTNER DFI	WEBSITE
<b>KOSOVO</b>			
<b>AFK</b>	Households	GGF	<a href="http://www.afkonline.org/">http://www.afkonline.org/</a>
<b>AFK</b>	Residential	EBRD/ GEFF	<a href="http://www.afkonline.org/">http://www.afkonline.org/</a>
<b>BPB</b>	Households	GGF	<a href="https://www.bpbbank.com/">https://www.bpbbank.com/</a>
<b>BPB</b>	SMEs	EBRD/ SME CSP	<a href="https://www.bpbbank.com/">https://www.bpbbank.com/</a>
<b>KEP Trust</b>	Households	GGF	<a href="https://keptrust.org">https://keptrust.org</a>
<b>Kreditimi Rural I Kosoves (KRK)</b>	Residential	EBRD/ GEFF	<a href="http://krk-ks.com">http://krk-ks.com</a>
<b>Kreditimi Rural I Kosoves (KRK)</b>	Households	GGF	<a href="http://krk-ks.com">http://krk-ks.com</a>
<b>ProCredit Kosovo</b>	SMEs	EBRD/ SME CSP	<a href="https://www.procreditbank-kos.com/">https://www.procreditbank-kos.com/</a>
<b>TEB</b>	Residential	EBRD/ GEFF	<a href="http://www.teb-kos.com">http://www.teb-kos.com</a>
<b>NORTH MACEDONIA</b>			
<b>Halkbank MK</b>	Households & SMEs	GGF	<a href="https://www.halkbank.mk/">https://www.halkbank.mk/</a>
<b>Ohridska Banka</b>	Residential	EBRD/ GEFF	<a href="https://www.ohridskabanka.mk/">https://www.ohridskabanka.mk/</a>
<b>Ohridska Banka</b>	RE projects	GGF	<a href="https://www.ohridskabanka.mk/">https://www.ohridskabanka.mk/</a>
<b>Procredit Bank Macedonia</b>	Residential	EBRD/ GEFF	<a href="https://pcb.mk/mk/eco">https://pcb.mk/mk/eco</a>
<b>Procredit Bank Macedonia</b>	SMEs	-	<a href="https://pcb.mk/mk/eco">https://pcb.mk/mk/eco</a>
<b>Sparkasse Macedonia</b>	Residential	EBRD/ GEFF	<a href="https://sparkasse.mk/">https://sparkasse.mk/</a>
<b>MONTENEGRO</b>			
<b>Alter Modus</b>	Households	GGF	<a href="https://www.altermodus.me">https://www.altermodus.me</a>
<b>Atlasbanka</b>	Local authorities		<a href="https://www.atlasbanka.com">https://www.atlasbanka.com</a>
<b>Crnogorska komercijalna banka</b>	SMEs		<a href="http://ckb.me">http://ckb.me</a>
<b>Hipotekarna banka</b>	SMEs		<a href="http://hipotekarnabanka.com">http://hipotekarnabanka.com</a>
<b>Investiciono Razvojni Fond CG</b>	Local authorities/SMEs		<a href="http://irfcg.me">http://irfcg.me</a>
<b>Komercijalna Banka Budva</b>	SMEs		<a href="http://www.kombankbd.com">http://www.kombankbd.com</a>

INSTITUTION	TARGET MARKET	PARTNER DFI	WEBSITE
<b>SERBIA</b>			
<b>Addiko</b>	SMEs		<a href="http://addiko.rs">http://addiko.rs</a>
<b>Banca Intesa</b>	SMEs	EBRD/ WEBSE-FF 2	<a href="https://www.bancaintesa.rs">https://www.bancaintesa.rs</a>
<b>Banca Intesa</b>	SMEs	EBRD/ SME CSP	<a href="https://www.bancaintesa.rs">https://www.bancaintesa.rs</a>
<b>Banca Intesa RS</b>	Households & SMEs	GGF	<a href="https://www.bancaintesa.rs">https://www.bancaintesa.rs</a>
<b>Erste</b>	Residential	EBRD/ GEFF	<a href="https://www.erstebank.rs">https://www.erstebank.rs</a>
<b>Erste Bank Novi Sad</b>	SMEs	KfW	<a href="https://www.erstebank.rs">https://www.erstebank.rs</a>
<b>Halkbank RS (Cacanska Banka)</b>	SMEs & residential	GGF	<a href="http://www.halkbank.rs/">http://www.halkbank.rs/</a>
<b>Intesa Leasing Beograd</b>	SMEs	GGF	<a href="http://www.intesaleasing.rs">http://www.intesaleasing.rs</a>
<b>Komercijalna banka</b>	SMEs	GGF	<a href="https://www.kombank.com/sr">https://www.kombank.com/sr</a>
<b>NLB Bank</b>	Residential		<a href="https://www.nlb.rs">https://www.nlb.rs</a>
<b>ProCredit Bank RS</b>	Households & SMEs	GGF	<a href="https://www.procreditbank.rs">https://www.procreditbank.rs</a>
<b>Raiffeisen Leasing</b>	SMEs	KfW	<a href="https://www.raiffeisenbank.rs/">https://www.raiffeisenbank.rs/</a>
<b>Sberbank</b>	Renewables		<a href="https://www.sberbank.rs">https://www.sberbank.rs</a>
<b>UniCredit</b>	SMEs	EBRD/ SME CSP	<a href="https://www.unicreditbank.rs">https://www.unicreditbank.rs</a>
<b>UniCredit</b>	Residential	EBRD/ GEFF	<a href="https://www.unicreditbank.rs">https://www.unicreditbank.rs</a>
<b>UniCredit</b>	SMEs	KfW	<a href="https://www.unicreditbank.rs">https://www.unicreditbank.rs</a>
<b>UniCredit</b>	RE projects	GGF	<a href="https://www.unicreditbank.rs">https://www.unicreditbank.rs</a>
<b>UniCredit</b>	SMEs	EBRD/ PSSF	<a href="https://www.unicreditbank.rs">https://www.unicreditbank.rs</a>

The lists provided in this section have been compiled on a best efforts basis from information publicly available at the time of production (Oct 2019) and all information is indicative only.







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