



Clean Energy Overview



The energy sector in the Western Balkans is characterised by insufficient and aging infrastructure, high reliance on fossil fuels, late adoption of renewable sources beyond hydropower and residential biomass, high rates of energy intensity; limited private sector participation, and energy poverty measures inefficient market mechanisms. The **Economic and Investment Plan** for Western Balkans, building on the success of the **Connectivity Agenda 2015-2020**^{***}, has identified, in partnership with the beneficiary economies, flagship projects to tap on inefficiency on gas supply, electricity transmission, renewable energy, and to promote the transition towards energy efficiency in the region. The Western Balkans Investment Framework (WBIF) is the main financial vehicle for the implementation of these flagship projects.

2009-2022			
Projects	EU grant value (IPA and WBIF)		
60*	€430m		
Investment projects	Technical assistance	Investment projects	Technical assistance
14	46	€183m	€86m
Estimated value for investment projects	Regional Energy Efficiency Programme		
€702m**	€161m		

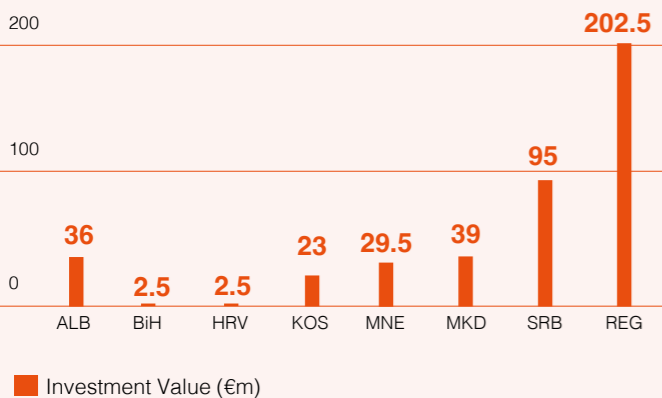
Achieved results (2009 - 2022)

- 176 MW renewable energy generation capacity installed
- 130 km of electricity transmission lines upgraded
- 376 buildings renovated and 1.6m MWh/year of energy saved
- District heating systems upgraded in 23 cities and towns

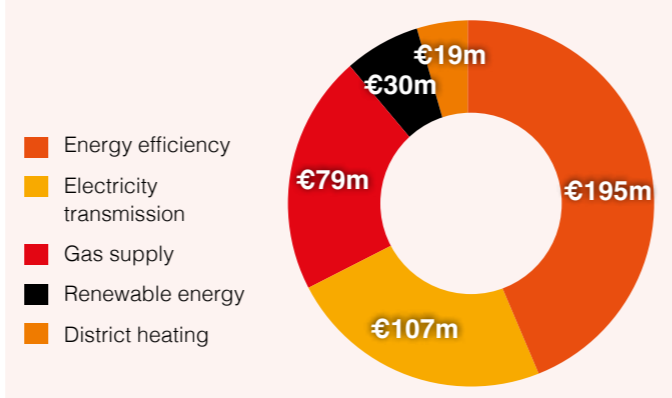
Expected results (2022 - 2030)

- 1,109 km of electricity transmission lines upgraded and secure power supply
- 1,409 MW renewable energy generation capacity installed
- 727 km of gas pipelines
- 328 public buildings and schools renovated

Grants per beneficiary



WBIF grants by subsector



Flagship 4 - Renewable energy



Albania
Rehabilitation of Fierza Hydropower Plant

WBIF EU grant	€8.7m
Lead IFI	KfW
Estimated investment	€48.4m
Expected completion	2027

Albania is a net importer of electricity, and domestic generation is almost entirely dependent on hydropower. This project will rehabilitate the electro-mechanical components and supporting network of the Fierza hydropower plant.



North Macedonia
Oslomej 1 and 2 Solar Photovoltaic Power Plant

WBIF bilateral donor grant	€6.8m
Lead IFI	EBRD
Estimated investment	€39.4m
Completion	2022-2024

The energy sector of North Macedonia relies predominantly on fossil fuels and hydropower and is dependent on electricity imports. These investments have installed a 10 MW and 30 MW solar power plants on the site of the exhausted coal mine in Oslomej and adjacent to the coal-fired thermal power plant in Bitola.

Flagship 5 - Transition from coal



Serbia
Trans-Balkan Electricity Corridor: Serbia – Montenegro – Bosnia and Herzegovina 400 kV Interconnection

WBIF EU grant	€11m
Lead IFI	KfW
Estimated investment	€40.8m
Expected completion	2026

This investment in Serbia contributes to the establishment of a regional power network connecting the electricity transmission systems of Bosnia and Herzegovina, Montenegro, and Serbia with Croatia, Hungary, Romania and Italy through 400 kV overhead lines or submarine cables.

Flagship 5 - Transition from coal



Serbia
Serbia-Bulgaria Gas interconnector

IPA funds	€49.6m
WBIF TA grant	€1m
Lead IFI	EIB
Estimated investment	€85.5m
Expected completion	2023

At the beginning of 2022 construction works started on the Serbian section of the 109 km natural gas interconnector that will connect Niš (Serbia) and Sofia (Bulgaria). Citizens of Southeast Serbia, as well as the industry and other areas of the economy, will thus get a source of cleaner and cheaper energy for heating than before.

Flagship 6 - Renovation wave



Bosnia and Herzegovina
Energy efficiency in public buildings in Sarajevo Canton

REEP grants	€2m
Lead IFI	EBRD
EBRD loan	€8m
Bilateral donor grant	€1m

Through the project, implemented under the Regional Energy Efficiency Programme (REEP/REEP Plus), the EU will support renovation of 40 buildings, kindergartens, schools, faculties, student dormitories and local outpatient health centres.



Serbia
Regional Energy Efficiency Programme

EBRD loan (GEFF)	€44,000
Lead IFI	EBRD
Expected completion	2021

A small company from Central Serbia installed a 160-kW solar photovoltaic system with financial support through the EBRD and GEFF. The investment allows the company to produce over 200,000 kWh per year, and contribute to saving of approximately 162 tons of CO2eq annually.

* Economic and Investment Plan 2021-2027 and Connectivity agenda 2015-2020, projects implemented through WBIF.
 ** Projects with WBIF investment grant, including Serbia - Bulgaria gas interconnector.
 *** WBIF implemented the Connectivity Agenda 2015-2020 pledge of €1 billion leveraging a total of €3.7 billion for investments in transport and energy infrastructures.



Clean Energy Gas supply



2009-2022

EU grant value (IPA and WBIF)
€79m** Investment grants **€62m** Technical assistance **€17m**

Estimated investment value for projects with INV grant

€152m



Serbia - Bulgaria gas interconnector

IPA funds **€49.6m**
 WBIF TA grant **€1m**
 Lead IFI **EIB**
 Estimated investment **€85.5m**
 Expected completion **2023**

At the beginning of 2022 construction works started on the Serbian section of the 109 km natural gas interconnector that will connect Niš (Serbia) and Sofia (Bulgaria), thus supporting the regional energy security. Citizens of Bela Palanka, Pirot and Dimitrovgrad in the Southeast Serbia, as well as the industry and other areas of the economy, will thus get a source of cleaner and cheaper energy for heating than before.

Identified priorities

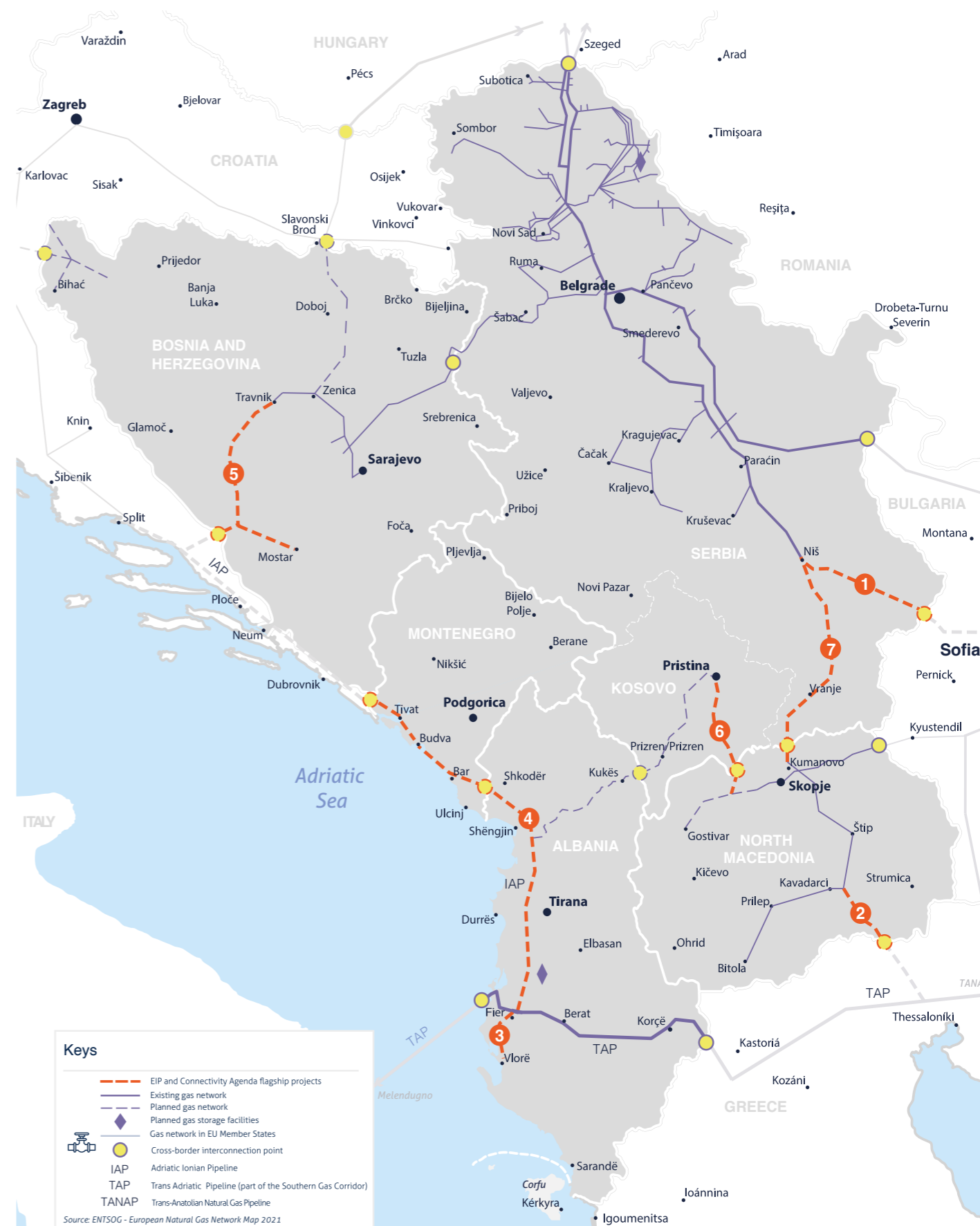
- The **North Macedonia – Serbia gas Interconnection** will be prepared for construction.
- The **North Macedonia - Greece gas interconnector** works contract by the end of the year.
- The **gas interconnector Bosnia and Herzegovina – Croatia**, complementing the above diversification, and increasing the potential and diversification of the existing gas distribution system in the country, will be completed.
- As part of the Trans Adriatic Pipeline, the construction of the **Fier-Vlora gas pipeline in Albania** will be completed, and the **Ionian-Adriatic pipeline** along the coast will be prioritised, facilitating a major diversification of the sources of gas supply to the Western Balkans region and beyond.

These gas interconnectors will allow non-Russian gas to be brought from the Southern Gas Corridor (TAP-TANAP) to the region. In addition, Commission has expressed readiness to support the construction of Southern gas interconnector connecting Bosnia and Herzegovina (Mostar, Zenica) with Croatia (Split).

Western Balkans • Gas flagship investments

- 1 Serbia (Niš) – Bulgaria gas Interconnector (under construction)
- 2 North Macedonia – Greece gas Interconnector
- 3 Trans Adriatic Pipeline: Fier - Vlorë gas Connection in Albania
- 4 Ionian Adriatic Pipeline
- 5 Bosnia and Herzegovina – Croatia South gas Interconnector
- 6 North Macedonia – Kosovo* gas Interconnection
- 7 North Macedonia – Serbia gas Interconnection

Western Balkans • Gas flagship investments



*This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.
 **Including Serbia - Bulgaria gas interconnector investment grant.



Clean Energy Electricity transmission



2009-2022

EU grant value (IPA and WBIF)	Investment grants	Technical assistance
€107m	€89m	€18m

Estimated investment value for projects with INV grant

€420m

→ The **Trans-Balkan Electricity Transmission Corridor in Serbia** as part of interconnection between Serbia, Montenegro, and Bosnia and Herzegovina will be completed to provide the backbone for the electricity distribution of the whole region and towards the EU.

In total, IPA grants (both national IPA and WBIF) for the two gas interconnectors and the Trans-Balkan Electricity Corridor amount to €117.5m.

Trans-Balkan Electricity Corridor: Serbia – Montenegro – Bosnia and Herzegovina 400 kV Interconnection

WBIF EU grant	€11m
Lead IFI	KfW
Estimated investment	€40.8m
Expected completion	2026

This investment in Serbia contributes to the establishment of a regional power network connecting the electricity transmission systems of Bosnia and Herzegovina, Montenegro, and Serbia with Croatia, Hungary, Romania and Italy through 400 kV overhead lines or submarine cables.



Western Balkans • Electricity transmission

- 1 Trans-Balkan Electricity Corridor: Kragujevac – Kraljevo Grid section (*completed*)
- 2 Trans-Balkan Electricity Corridor: Obrenovac – Bajina Bašta Grid Section
- 3 Trans-Balkan Electricity Corridor: Bajina Bašta (SRB) – Pljevlja (MNE) – Višegrad (BIH) Grid Section in Serbia
- 4 Trans-Balkan Electricity Corridor: Grid Section in Montenegro
- 5 Advanced System for Remote Meter Reading for Kraljevo, Čačak and Niš in Serbia
- 6 Albania – North Macedonia Power Interconnection: Grid Section in Albania
- 7 Albania – North Macedonia Power Interconnection: Grid Section in North Macedonia (*under construction*)



Western Balkans • Electricity transmission





Clean Energy Renewable energy



2009-2022

EU grant value (IPA and WBIF)
€30m

Investment grants **€18m**

Technical assistance **€12m**

Estimated investment value for projects with INV grant
€100m

- The **Fierza Hydro Power Plant rehabilitation in Albania** will be completed, and the construction of the Skavica Hydro Power Plant advanced, in order to increase the potential for the country and ultimately the region with view to increase export of electricity from clean energy.
- **Wind park and solar power plant investments in North Macedonia** will be substantially advanced and serve as an example for future proof investments making use of the renewable energy potential of the region.
- In **Kosovo, the upgrading of a thermal energy production** capacity for supply of district heating to new suburbs and consumers in Pristina (€17.6m grant with EIB). Start: 2023
- In **Serbia, the National IPA supports the preparation of Biomass District Heating Investments** (€1m grant), implemented by KfW



**North Macedonia
Windpark Bogdanci**

WBIF bilateral donor grant **€76m**

Lead IFI **KfW**

KfW loans **€65.9m**

Completion **2019**

Call for investment proposals 2022

Increase in EU support for renewable energy investments:
€130m for INV grants

* New overall investments around €500m in this sector

Albania
 → **Zero-carbon urban transport for Tirana**
 → KfW blending €7.3m grant for an investment of €20.1m

Bosnia and Herzegovina
 → **Poklecani Windfarm**
 → **Rehabilitation and modernisation of Čapljina Pumped Storage Hydro Power Plant**

Kosovo
 → **Solar PV plant of 100MW**
 → KfW and EIB blending: €33.5m grant for an investment of €105m
 → **Thermal solar energy for district heating supply in Pristina**
 → KfW and EBRD blending: €23m grant for an investment of €80.5m
 → Completion 2023-2025

Montenegro
 → Support to advancing of the sector policy and regulatory framework (Optimal use of energy; Improve conditions for investments in sustainable energy)
 → A concrete support through several studies contributed to two laws on biofuels, and advancing of a greener transport sector

North Macedonia
 → **Bogdanci Wind Park Phase II**
 → KfW blending €9m grant for an investment of €30m
 → **Rehabilitation of 6 hydropower plants**
 → KfW blending €11m grant for an investment of €36m

Serbia
 → **Rehabilitation of Vlasina hydropower plant**
 → EBRD blending €15.5m grant for an investment of €77m
 → **Kostolac windfarm**
 → EBRD blending €30.6m grant for an investment of €144m
 → **Technical assistance** to prepare 3 additional renewable energy projects:
 → Solar Powerplant in Kolubara A TPP,
 → Morava Solar Powerplant
 → Nis RES District heating project

Endorsed flagship projects



Albania
Rehabilitation of Fierza Hydropower Plant

WBIF EU grant	€8.7m
Lead IFI	KfW
Estimated investment	€48.4m
Expected completion	2027

Albania is a net importer of electricity, and domestic generation is almost entirely dependent on hydropower. This project will rehabilitate the electro-mechanical components and supporting network of the Fierza hydropower plant.



Albania
Vau i Dejës Floating Solar Photovoltaic Power Plant

WBIF bilateral donor grant	€2.7m
Lead IFI	EBRD
Estimated investment	€12m
Expected completion	2024

This investment project will install a 12.9 MW floating solar photovoltaic power plant at Vau i Dejës, a reservoir that hosts one of the largest hydropower plants in Albania.



North Macedonia
Oslomej 1 Solar Photovoltaic Power Plant

WBIF bilateral donor grant	€1.6m
Lead IFI	EBRD
Estimated investment	€8.8m
Completion	2022

The energy sector of North Macedonia relies predominantly on fossil fuels and hydropower and is dependent on electricity imports. This investment project has installed a 10 MW solar power plant on the site of the exhausted coal mine in Oslomej.

Endorsed flagship projects



North Macedonia
Oslomej 2 and Bitola Photovoltaic Power Plants

WBIF EU grant	€5.2m
Lead IFI	EBRD
Estimated investment	€30.6m
Expected completion	2024

This investment project will install two solar power plants with a combined capacity of 30 MW on the site of the exhausted coal mine in Oslomej and adjacent to the coal-fired thermal power plant in Bitola.

Regional Energy Efficiency Programme (REEP/REEP Plus)



Serbia
Cooperation between biogas powerplant and farmers

A biogas power plant in Vojvodina, Serbia, built with support of REEP and EBRD, is producing enough energy to power more than 3,000 households. Around 18,000 MWh per year are produced out of agricultural residue from farms that are converted into biogas. This has proved to be a win-win situation for both the power plant and the local farmers.



Serbia
Regional Energy Efficiency Programme:

EBRD loan (GEFF)	€44,000
Lead IFI	EBRD
Expected completion	2021

A small company from Central Serbia installed a 160-kW solar photovoltaic system with financial support through the EBRD and GEFF. The investment allows the company to produce over 200,000 kWh per year, and contribute to saving of approximately 162 tons of CO2eq annually.

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Clean Energy Energy efficiency



2009-2022*

EU grant value (IPA and WBIF)	Investment facility (no INV grants)	Technical assistance
€195m	€161m	€34m

Estimated investment value for projects with Investment facility grant

€956m

→ A **building renovation wave implemented with the help of the Energy Community** will assist the Western Balkans in decarbonisation of public and private building stock, with a strong emphasis on digitalisation and taking into account energy poverty. The EU together with international financing institutions, will support the efforts of the Western Balkans partners to triple the current renovation rate and energy savings in existing buildings and achieving nearly-zero energy and emission standard in new buildings.



National IPA projects

Bosnia and Herzegovina "EU4Energy"

- Legislative framework compliant with the EU energy acquis (€5m)
- Support to energy efficiency investments in public buildings and pilot and innovative green investments in local communities (€9m)

Municipal lighting in Bihac

- replaced with modern LED lights worth €650.000

Kosovo Energy Efficiency Fund (KEEF)

- IPA 2017 and IPA 2022 (€13m IPA grant)
- 74 projects ongoing
- 70 projects in the pipeline

North Macedonia

- Support to reform the energy sector (FWC – Supporting Energy reforms (640,000 €))
- Energy efficiency investments in municipal public buildings (€3m grant scheme)

Serbia

- EU and EBRD for EE in Belgrade (€16m IPA 2018, grant and loan)
- Further development of energy planning capacity (€1.12m IPA 2017, grant)
- EU and EBRD for Energy efficiency in Serbia (€8,5m, IPA 2020, grant and loan)

Greening the Private sector: WBIF Projects endorsed

- Private sector green transition in the region: **SMEsGo Green** and the **Climate Programme and Green Finance for Inclusion**
- **Total €50m** (to crowd in about €400m during a period of three years)
- Start: **2023**
- **EIB "Risk-sharing instrument"**, enabling up to:
 - **€45m guarantee** coverage to boost investments in Energy Efficiency,
 - Renewable Energy and Digital sector projects

April/June 2022

REEP/REEP Plus

Regional Energy Efficiency Programme

- Additional EU funding (early 2022)
- €100m leveraging further investments for a total of some €400m

* In addition to €60m of EU contribution to the programme since 2017

Result



Improved energy efficiency for 10,000 households and 1,000 businesses in the Western Balkans



The Regional Energy Efficiency Programme (REEP/REEP Plus) was established by the Western Balkans Investment Framework in 2012. Various organisations cooperate to make it a success, including the Energy Community, the European Bank for Reconstruction and Development, European Commission and KfW Banking Group. It comprises more than €600 million of investments from the EBRD and KfW Banking Group, which are combined with grants from the WBIF.

Energy Efficiency Programme in Public Buildings - Phase III

REEP grant	€4.8m
Lead IFI	KfW
KfW loan	€45m
National contribution	€10m

KfW has a particular focus on highly efficient public buildings - Near-zero energy buildings (NZEB) or Energy Plus (EP) buildings which form an indispensable building block on the way to carbon neutrality. KfW also promotes the Energy Monitoring Systems in public buildings, supported by IT smart devices to detect inefficiencies and optimise the operations of a building.



→ Montenegro, which has already been the frontrunner on the Balkans in terms of energy efficiency, now plans to construct a **new ministerial complex** in the capital **Podgorica**. With several ministries under one roof, the new building will become an example of state-of-the-art technology and top-end energy efficiency standards. The energy consumption of the building will be at least nearly zero.

→ Another KfW energy efficiency project in Montenegro, finished in 2014, is the reconstruction of the **school "Jagoš Kontić" in Nikšić**. The roof cover was replaced, thermal insulation applied under the roof and on the the façade walls; the façade joinery luminaries and boilers were replaced; radiators were flushed, thermal valves installed and painting works done.

→ In Albania, KfW is planning to construct **three completely new student dormitories in Tirana**, all applying NZEB standards. And in North Macedonia, talks are underway to select a number of **student dormitories in the cities of Skopje, Bitola, Ohrid, Prilep and Shtip** that should be retrofitted and upgraded to NZEB standards. Both programmes are composed of €20 million KfW interest subsidized loan blended currently with €5 million WBIF REEP funds each.

* These amounts include WBIF and IPA investments.