

POSITION PAPER

ENERGY AND CLIMATE PLANNING ALBANIA 2030



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1. STATE OF PLAY IN THE ALBANIAN ENERGY AND CLIMATE SECTOR

Albania is a country in Southeastern Europe, bordered by Montenegro to the northwest, Kosovo to the northeast, North Macedonia to the east, and Greece to the south and southeast. The western side of the country is a coastline to the Adriatic Sea, and the southern side has a coastline onto the Ionian Sea. In terms of electricity generation, around 99% of the electricity is generated from hydropower with still less than 1% of primary energy supply from solar power plants. With the ongoing climate change, energy security could become a critical concern in Albania.

Albania like the rest of the Western Balkan has continued to encourage foreign capital to enter the energy sector. In 2018, the net inflows of foreign direct investment amounted to 8% of the national GDP (International Monetary Fund, 2018).

A considerable interest that has made that electricity produced by private sector reached 43% of net domestic production in 2019. Notwithstanding which the country remains a net importer on average for around one-third of its needs. Notably, in 2019, drought-triggered electricity imports cost by € 209 million and put the power utility KESH and distribution operator into severe financial difficulty. The development the energy sector has been a vital priority of any government, and a fundamental part of the economic development plans from the decades, which has been materialized, in government facilities and subsidies to support investments, accompanied with the creation of high quality technical and experienced workforce. The all have been materialized, in one of the long proven track records of successful foreign investment from countries in Europe's with the oldest tradition in the energy industry.

The country is predominantly mountainous, with eight major rivers crossing a basin with over 57% of its current administrative extension, with an average height by 700 m above sea level and a perennial flow by 1.245 m³/s, for a combined water supply by 40 billion cubic meters yearly. Then, by first, the traditional sources developed in Albanian have been based on its hydroelectric potential.

In the 2014-2018 period, Albania's total primary energy production was respectively 2.014 ktoe, 2.117 ktoe, 2.013 ktoe, 1,661 ktoe, 1,997 ktoe. The gross inland consumption in respective period was 2,157 ktoe, 2,025 ktoe, 2,060 ktoe, 2,147 ktoe, 2,131 while net imports were 653 ktoe, 243 ktoe, 463 ktoe, 919 ktoe, 479 ktoe. Albania's primary energy supply is dominated by oil, hydropower and imported electricity as shown in the [Figure 1](#) which shows imports of oil by products, electricity and small amount of coal comprise over 56% of all primary energy consumption. The [Figure 2](#) shows that the transport sector consumes the most final energy. The transport sector is followed by households and industry. The three dominant final energy fuels are oil products, electricity and wood. The figures illustrate the following characteristics of the Albanian energy sectors:

- The heavy dependence on oil imports,
- The importance of hydropower,
- The large transport sector share of energy consumption,
- The absence of a natural gas sources.

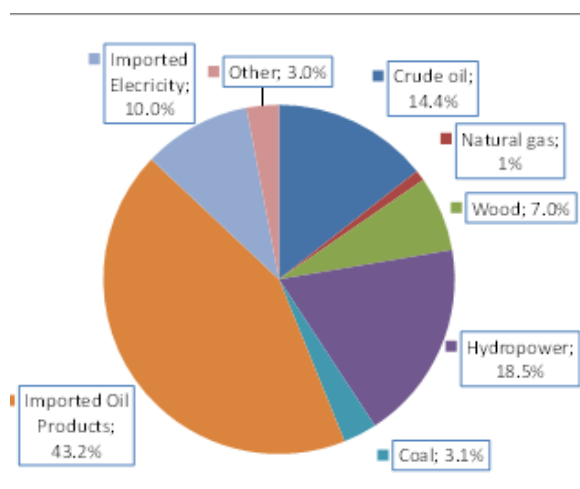


Figure 1: Primary Energy Supply and Imports – 2018

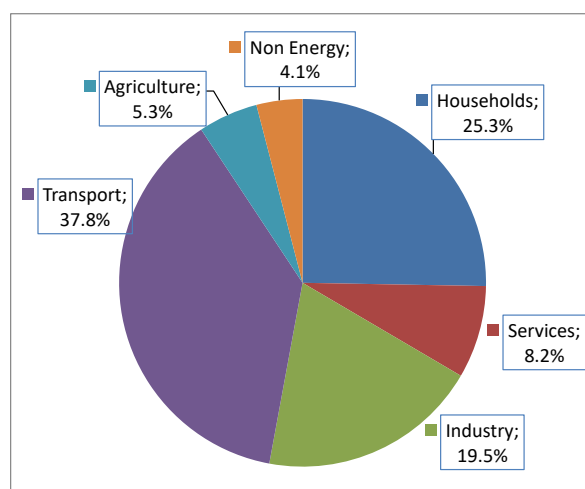


Figure 2: Final Energy Consumption by Sector – 2018

The aggregate Greenhouse gas (GHG) emissions and removals (net emissions) are estimated to 11.576,79 Gg CO₂ eq. in 2009 and 11.894,22 Gg CO₂ eq. in 2016 respectively including the AFOLU¹ sector. Figure 3 shows the time series of emissions and removals, including the net emissions (in CO₂ eq.) from 2009-2016.

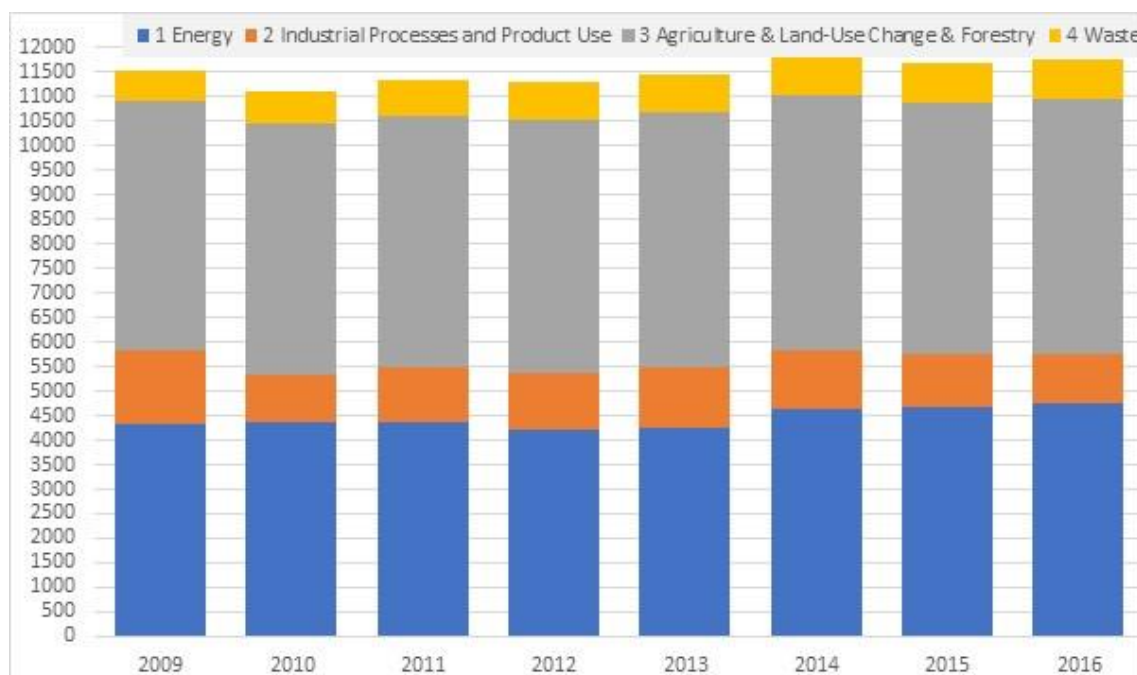


Figure 3: CO₂ eq. emissions and removals from all economic sectors (Gg)

Analysis of Figure 3 shows clearly that Agriculture, Land Use and Forestry sector has the highest contribution followed from the Energy. The third sector is the Industrial Processes and Product Use. The last one is Waste sector. GHGs (net emissions) from AFOLU sector has increased from 5.051,78 Gg CO₂ eq. in 2009 to 5.198,55 Gg CO₂ eq. in 2016. Inside of this sector, GHGs emissions from agriculture have a slight increase from 1.492,53 Gg CO₂ eq. in 2009 to 1.533,89 Gg CO₂ eq. in 2016. The greatest changes come from the forestry sector,

¹ AFOLU – Agriculture, Forestry and Other Land Use

where there is a significant increase in GHGs emissions from 2.917,45 Gg CO₂ eq. in the year 2009 to 2.968,03 Gg CO₂ eq.

If emissions and removals from the AFOLU sector are not accounted for, then the total GHG emissions are 8.584,71 Gg CO₂ eq. in 2009 and 8.792,54 in 2016 respectively (*Figure 4*). The greatest share of emissions is from the Energy sector, accounting for 4.751,96 Gg CO₂ eq. in 2016.

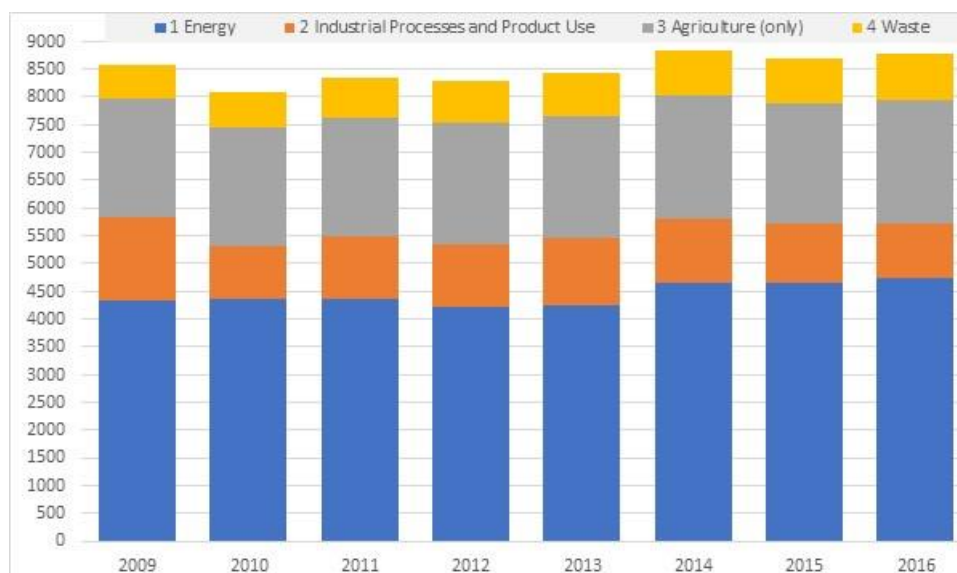


Figure 4: Total GHG emissions by sector, excluding FOLU sector (in Gg CO₂ eq.)

Electricity generation has been historically met almost exclusively by hydropower plants, with a total installed power capacity of 2.192 MW at the end of 2019. The country has exploited approximately 50% of its hydropower potential, and future expansion of hydropower capacity is possible mainly along the Drini, Mati, Vjosa, Devolli, and Bistrica rivers. The only thermal power plant, Vlora TPP, is not yet operational, and its conversion to natural gas is foreseen following the construction completion of the project of the Trans Adriatic Pipeline (TAP). Albania imports electricity from neighbouring countries, although they have progressively dropped in the last ten years following the increase in domestic power generation and the reduction of electricity losses (technical and non-technical) in the distribution system, which have been reduced from 45% in 2013 to 28% by the end of 2016², and 22% in 2019, with a clear investment and management plan to reduce them further to 17% by the end of 2020.

Albania's electricity market is under transition from a centrally planned to a market-based system. The wholesale power market is dominated by the state-owned, regulated generation company KESH, which supplies to OSHEE the electricity needed for captive customers under-regulated "full supply" condition. The competitive wholesale environment consists of independent producers and a small number of large customers supplied through bilateral contracts.

² Implementation of the project "Recovery of the Power Sector" and the recent revamping work carried out on the transmission-distribution networks during the years 2014-2016.

2. OVERVIEW OF CURRENT INSTITUTIONAL AND LEGAL FRAMEWORKS FOR ENERGY MANAGEMENT IN ALBANIA

2.1. Overview of the current institutional framework in Albania

Key power sector institutions and companies in Albania are as follows, which are shown in *Figure 5*:

- Government and regulatory actors, which include government and ministries, the regulator, and agencies to whom ministries delegate specific sector responsibilities;
- Public sector companies, such as KESH, OST, and OSHEE, who are currently major players;
- Line of oversight from the relevant ministry to each public sector company, reflecting the recent shift in oversight for OST to the Ministry of Economic Development to meet the unbundling requirements of the acquis.

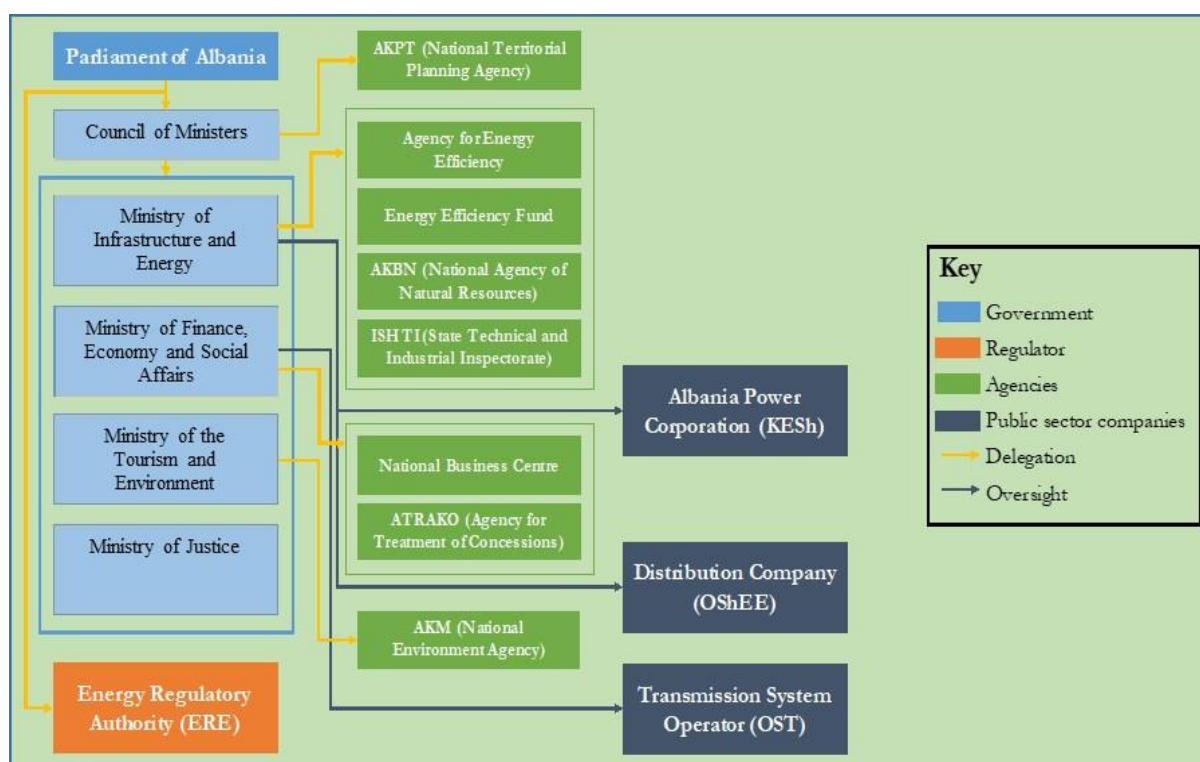


Figure 5: Key Power Sector Institutions in Albania

The most significant institutions in setting policy and regulation in the power sector in Albania are the Ministry of Infrastructure and Energy (“MIE”) and the regulator, the Energy Regulatory Authority (“ERE”). In addition to MIE and ERE, there are other ministries that have a smaller role in the sector, and also a number of government agencies with responsibilities with respect to the power sector that are delegated to them by the ministries.

Council of Ministers: The Council of Ministers is the cabinet of Albania, which, along with the Prime Minister, sets the overall direction for policy across the government. Specifically, in the energy sectors, its role is review and approval of decisions that are proposed by MIE, such as this Energy Strategy, before the decisions can go into force.

Ministry of Infrastructure and Energy (MIE): MIE has overall responsibility for the energy sector and is responsible for developing energy policy and the medium and long-term strategies for the energy sector. MIE's key area of focus in the power sector is continuing to make progress in implementing reforms to align Albanian policy and regulation with the EU's energy acquis. This process is now well underway with the recent passing of the Law on the Power Sector, the EE Law, Energy Performance in Building Law and RES Law. Ministry through its Energy Efficiency Agency (EE Agency) and Energy Efficiency Fund (EE Fund) is involved in some of the reforms being implemented to improve energy efficiency, specifically in the implementation of the Energy Performance in Buildings ("EPB") Law.

While MIE is the ministry most engaged in the sector, there are a number of other Government ministries that work with MIE in setting the overall policy agenda for the sector. These ministries, and the actions that they will need to take to implement the new laws, are set out below, and all government priority actions are summarized in **Error! Reference source not found..**

Ministry of Finance and Economy: ("Ministry of Economy") includes the Directorate of Public Property, which oversees the economic and financial performance of state enterprises, including OST, KESH and OSHEE. The Directorate of Competitiveness is responsible for ensuring the free movement of goods and services and the implementation of legislation to align with the EU's internal market. In addition, the National Business Centre helps new entrants to the market to navigate licensing requirements, and ATRAKO manages the tendering of concessions, including those for hydro resources.

Ministry of Tourism and Environment ("MoTE"): has overall responsibility regarding the protection of the environment affect the energy sector; MoTE is responsible, through the National Environment Agency), for approving the Environmental Strategic Assessment for planned development in the power sector. MoTE is also responsible for climate change related policies, and it serves as a focal point for the Albanian Government under the UNFCCC.

Energy Regulatory Authority (ERE): The Energy Regulatory Authority ("ERE") is established in 1995 is an independent public body. Its responsibilities reach from regulating the activities in the electricity and natural gas sectors. This institution most important role is that ERE develops and adopts electricity market rules while also watching overall electricity market operations in Albania. In addition, ERE's powers are also embedded in the fact that it is the responsible entity for issuing licenses to carry out activities of electricity generation, transmission, distribution, supply and trade. Electricity producers in Albania receive their approval of the grid codes by ERE for their operations and connections to the transmission and distribution networks. ERE is the authority that also adopts electricity tariffs. Inclusive to this function are also feed-in-tariffs to all eligible electricity producers from renewable sources while also defining the standard purchase agreements of these producers.

Agency of Energy Efficiency: The establishment of the Agency of Energy Efficiency ("AEE") is required under the EE Law. Duties and responsibilities of the Agency for EE are set out in detail in Article 25 of the EE Law, and include:

- Develop secondary legislation and programs to promote energy efficiency.

- Develop and monitor the National Energy Efficiency Action Plan (“NEEAP”) and prepare an annual progress report regarding the NEEAP.
- Work with market participants and stakeholders to develop a database to monitor progress being made in improving energy efficiency.
- Develop technical standards and regulations to improve the energy efficiency of products.
- Evaluate projects to improve energy efficiency for potential funding from the EE Fund.
- Support energy efficiency by providing advice, training, and developing open-source contracts for energy services.
- Verify the accuracy of data from energy audits, if deemed necessary.

In addition to the government departments and agencies set out above there are a number of agencies that have a smaller role within the power sector, mentioned below for completeness. There are no major changes to the roles carried out by these organizations as a result of the reforms currently being implemented.

AKBN – National Agency of Natural Resources: The National Agency of Natural Resources (“AKBN”) reports to MIE. AKBN mission is the development, supervision of rational use of natural resources, according to the government policy, and monitoring of their post-exploitation in mining, petroleum and energy.

AKPT – National Territorial Planning Agency and National Territory Council: The National Territorial Planning Agency (“AKPT”) is a public institution subordinated to MUD that is responsible for preparation and coordination of the national planning instruments.

AZHT - National Agency of Development: AZHT has responsibility for making decisions regarding specific projects of national importance. This includes, for example, approval of construction permits for projects in the energy sector such as power generation, transmission and distribution, and oil and gas projects.

AKM – National Environment Agency: National Environment Agency (“AKM”) is an institution subordinated to the Ministry of Tourism and Environment, which is responsible for reviewing and approving the environmental impact assessments for large development projects, such as those in the energy sector. The Agency also has responsibilities for monitoring compliance with environmental standards. In addition to the government departments and agencies presented above, there are a number of large public energy companies in Albania who are essentially the incumbent state-owned utilities. These companies will be affected by elements of the reforms being implemented, such as the obligations under the Energy Community Treaty, unbundling requirements, and the introduction of increasing levels of competition in the sector.

Albania Power Corporation, KESH: KESH remains the dominant electricity generator in Albania, generating ~75% of power generated in 2015. Originally KESH was established as a state-owned, vertically-integrated company comprising all functions of electricity generation, transmission and distribution. In 1995, according to two laws³, KESH was transformed into a

³ No.7926, dated 20.04.1995. “On transformation of state enterprises into commercial companies” and No.7962, dated 13.07.1995. “On electric power”.

joint stock company with 100% of the shares owned by the state, and KESH started to function as a commercial company. However, KESH is still largely regulated under public service obligations, because major part of the production is allocated to OSHEE for supply of tariff customers.

Transmission System Operator, OST: OST is the Transmission System Operator (“TSO”) in Albania managing the network at 110 kV and above. On implementation of the power sector reforms, OST will have three main roles:

- It will remain the owner and operator of the transmission network – the reforms will have relatively little impact on this role on a day-to-day basis.
- It is initially likely to own the Albanian Power Exchange, which will be the primary trading platform for the organized power market in the competitive market. This is a new role in the Albanian market that OST will need to build capacity for.
- OST will continue to be responsible for balancing of the system through the procurement of balancing and ancillary services.

Distribution Company, OSHEE: OSHEE owns the electricity power distribution system below 110 kV. OSHEE is a single legal entity that includes both the Distribution System Operator (“DSO”) and the Universal Service Provider. In 2009 OSHEE was privatized in order to secure investment, improve operational efficiency, reduce power losses, and improve revenue collections. With support from government it was envisaged that this would overcome mounting losses and lead to lower, more affordable and competitive retail power tariffs over the medium-term. From the outset, however, challenges began to emerge between CEZ, the new owners, and government regarding bad debt provisions, the rate of loss reduction and annual tariff filings. The distribution license was revoked by the Albanian Energy Regulatory Authority (ERE) in 2013 on the grounds that the distribution company had failed to meet the conditions of its license. The company went back to public ownership and embarked on an ambitious program of loss reductions and improved collections and dramatically improved its financial position. The Ministry of Infrastructure and Energy and OSHEE are working to unbundle the distribution wiring service from the Universal Service of supplying tariff customers. Unbundling of OSHEE is an obligation under the Energy Community acquis and the Power Sector Law, which will create more transparency for all users of the distribution network. The section below sets out some of the key implications of reform for these public energy companies, and the priority actions are summarized in

Table 1.

Table 1: Key implications of reform for these public energy companies and authorities, and the priority actions

TYPE OF INSTITUTION	RESPONSIBILITIES
Government	Review and approve new legislation and regulations as required to facilitate the implementation of reforms to the power sector
Ministry of Infrastructure & Energy	- Develop secondary regulations to implement the PS, RES, EPB and EE Laws - Support the Ministry for Finance, Economy and Ministry for Health and Social Protection in assigning appropriate rights to vulnerable customers - Set up and staff the Agency for Energy Efficiency and the Energy Efficiency Fund - Completing the missing parts for making effective the process of audits and management - Develop the secondary legislation for implementation of EPB Law - Work with other stakeholders to develop and implement a Building Renovation Strategy - Prepare secondary regulations to implement the ("EPB") Law
Ministry of Finance and Economy	Strengthen the National Business Centre to help new entrants navigate project licensing requirements
Ministry for Health and Social Protection	Ensure that criteria defined to identify vulnerable customers are implemented correctly so that the support available is targeted more appropriately.
Ministry of Tourism and Environment	- Continue to work with Ministry of Energy & Industry to ensure that energy sector policies are consistent with and supportive of Albania's strategy for fulfilling its agreed NDC - Increase transparency and compliance in strategic and environmental impact assessment, in particular for HPP
Albania Power Corporation (KESH)	- Establish new capabilities (e.g. trading) that KESH generation will need to sell power and compete in the new market - Deregulate generation prices and terminate full supply contract with OSHEE - Increase its generation capacity by becoming a key player in the region
Transmission System Operator (OST)	- Prepare unbundled accounts for TSO and market operator functions of OST's business - Prepare rules on grid security, quality of supply, and procedures for new connections - Finalize market rules, including rules for allocating cross-border interconnector capacity - Prepare short-term, medium-term, and long-term forecasts of electricity demand - Prepare a 10-year development plan for Albania, and provide annual investment plan updates alongside the annual tariff submissions - Recruit and train staff to operate and settle the market in line with the new market rules - Establish power exchange ALPEX
Distribution System Operator (OSHEE)	- Continue investments to further reduce distributions losses and improve collection rates - Prepare rules on grid security, quality of supply and procedures for new connections - Prepare a 5-year development plan for the distribution network, and provide annual investment plan updates alongside the annual tariff submissions - Define any new role(s) assumed once the new market design is implemented, for example in managing CfDs with legacy generators - Build operational capability to carry out responsibilities under the new Market Model; e.g. buying power on the ALPEX, managing off-take contracts with RES generators and processing consumers that change electricity supplier

2.2. Overview of current legal frameworks in Albania

Albania is in the process of developing and implementing a number of key laws and regulations that will have an impact on the role of main stakeholders in the power sector, and

in the area of energy efficiency as well as climate action. This chapter summarizes the key areas of reform, sets out the implications for the role of both existing and new energy sector institutions, and identifies gaps between the actual situation and what is expected to be achieved after the successful implementation of the reforms. The main drivers of reform in the power sector reforms include:

- The Energy Community Treaty (“EnCT”), ratified by the Albanian Parliament with Law No. 9501, dated 03.04.2006., which provides a legal framework for convergence with the European Union’s (“EU”) energy acquis⁴;
- Law No. 43/2015 “On Power Sector”, which was approved by the Albanian Parliament in April 2015;
- New Market Model for the Albanian electricity sector, which was approved by the Council of Ministers Decision no. 519, dated 13.07.2016.;
- Decision of ERE No. 214, dated 28.12.2017. “On approval of Albanian Electricity Market Rules and Participation Agreement in the Day-Ahead Market”;
- Law No. 124/2015 “On Energy Efficiency”, which was approved in November 2015;
- Law No. 7/2017 “On Renewable Energy Sources”, which was approved by the Albanian Parliament in February 2017.

As a signatory to the EnCT, much of Albania’s energy sector legislation and regulation is guided by requirements of the EU’s Internal Energy Market. Specifically, the EnCT sets out a number of *acquis*, which comprises core EU legislation in the energy sector.

Law No. 43/2015 “On Power Sector” was approved in 2015, with the primary objective of moving towards alignment with the EU acquis on electricity. A new Electricity Market Model (“Market Model”) for Albania was approved by the Council of Ministers in July 2016 and sets out changes to the electricity sector that would see a move away from the regulated market arrangements that have until now been in place, towards more liberalized trading arrangements. Implementation of the Market Model would also improve compliance with many components of the EU energy acquis set out in the EnCT. In order to facilitate the establishing of the Albanian Power Exchange and enabling TSOs or Market Operators from other countries to join the ALPEX, an amendment to the Power Sector Law was proposed and approved by the Albanian Government. The proposed law was transformed into the law nr. 7/2018, data 15.2.2018 by the Parliament (followed with a second amended by law nr. 61/2020 regard the market deregulation).

OST has a full set of market rules to implement the Market Model, which were approved by the ERE in December 2017. It is intended that implementation of the new Market Model is phased in over the period 2017-2020. The key characteristics of the new Market Model can be summarized as follows:

- Physical trading by market participants is exclusively to take place through the following platforms:
 - A day-ahead (“DA”) and intra-day (“ID”) market, to be set up by a new Albanian Power Exchange.

⁴ The EU’s “acquis communautaire on energy” is defined in Annex I of the Energy Community Treaty and includes a number of EU Directives and Regulations that are core to the regulation of the energy sectors of EU member states.

- Trading of long-term physical power is permitted based on cross-border capacity bought through cross-border capacity auctions.
- All other forms of trading will be financial, for example, through bilateral Contract for Difference (CfDs) or establishment of decentralized futures markets.
- Specific bidding rules are to be developed, and an efficient regulatory monitoring regime shall be enforced with the goal to prevent the abuse of any market power by specific participants.
- A Balancing Market which integrates imbalance settlement is to be established and operated by OST, which will balance supply and demand, starting from the positions nominated by market participants through physical trading, and through contracting for balancing services directly.

The new Market Model will have implications for existing commercial arrangements in the market:

- Where RES generators have Power Purchase Agreements (“PPAs”) with the KESH public supplier, the intention will be for these volumes to be traded through the organized market, but with a Contract for Difference (“CfD”) put in place to keep the RES generator whole relative to the original PPA. The affected generators will need to be able to access a liquid reference price, which will be the index for settlement against the strike (fixed) price in the CfD. The wholesale public supplier role will also be transferred to OSHEE once the new market model is implemented.
- There is currently a bilateral agreement in place between KESH and OSHEE that governs supply of power to OSHEE. In order to comply with the Market Model, these volumes will also be required to pass through the new power exchange. The Market Model refers to this as a “Market Maker Obligation” on KESH and OSHEE. As with the IPPs, a CfD could be put in place between KESH and OSHEE to provide a financial hedge against volatility in the organized physical market.

Once implemented successfully and accompanied by cost-reflective network and market access tariffs, the new Market Model should facilitate improved competition, first in the wholesale market, and then in the retail market. OSHEE will retain its supplier business, and will be exposed to competition by new suppliers that could enter the market to supply end consumers. An overview of the commercial relationships in place on implementation of the Market Model is presented in the schematic in *Figure 6*.

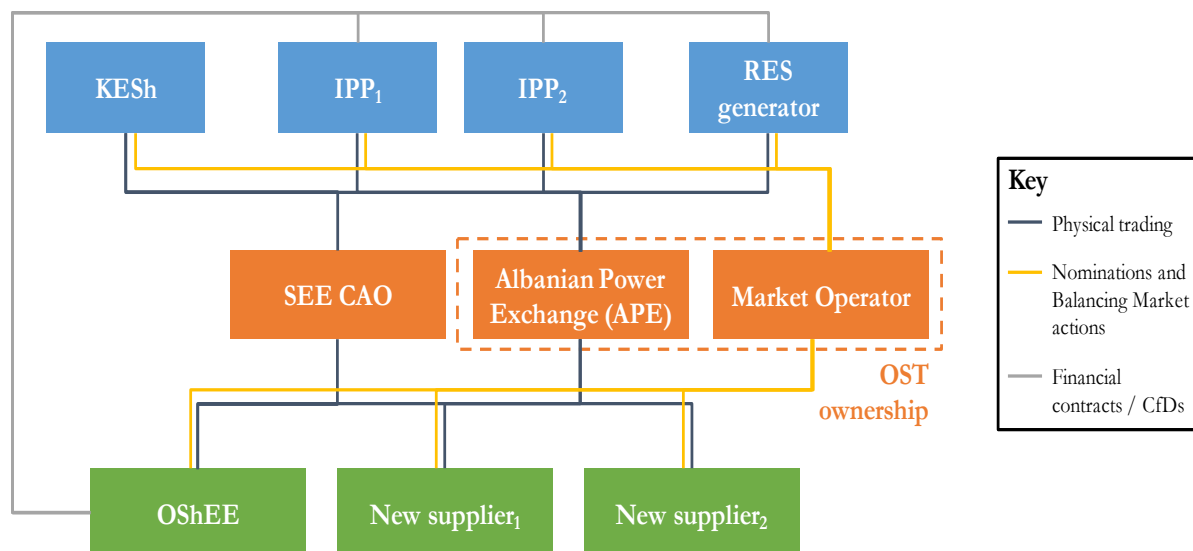


Figure 6: Recommended Schematic of the key commercial relationships under the Market Model

The new EE Law's primary objective was to align with the EU's Energy Efficiency Directives (2006/32/EC and partly 2012/27/EU). The main objectives of the Law can be summarized as follows:

- Setting of a National Energy Saving Indicative Target, and preparation of a National Energy Efficiency Action Plan ("NEEAP") that is to be updated at least every three years.
- Creation of an Agency for Energy Efficiency ("Agency for EE") to oversee implementation of many of the Law's provisions, and an Energy Efficiency Fund ("EE Fund") to support and finance energy efficiency measures.
- Putting in place requirements for larger energy consumers to improve their energy efficiency, requiring them to employ an energy manager, and carry out regular energy audits.
- Establishing criteria and standards for energy auditors and energy services providers.

The objective of the RES Law is to facilitate the harnessing of Albania's significant renewable energy resources, in particular in the area of hydroelectric plants, biomass and biofuel resources. Through the Energy Community, Albania has set a binding target of 38% of its gross final energy consumption to be fulfilled from renewable energy by 2020, which is an ambitious target compared to 36.8% in 2019, mostly due to the increase of final energy consumption. Specifically, the RES Law will introduce a renewable energy support scheme for electricity based on Contracts for Difference ("CfDs"), which takes into account the creation of a competitive day-ahead electricity market. The details of the CfD-based support scheme will need to be closely coordinated with the drafting of Market Rules described earlier. An effective CfD mechanism will require a robust reference price that RES generators can access through a liquid wholesale market. This should be available once the Market Model has been fully implemented.

2.3. Overview of existing MVR system and availability of data in general (including statistics) in the energy management sector in Albania

Implementation of the National Energy Strategy is a very significant undertaking for Albania, requiring consistent and meaningfully applied political will, coordination of all energy-related

stakeholders within the country, and cooperation with Albania's development partners. Furthermore, successful implementation depends on the commitment of private investors, donors, public energy companies and state budget resources, and the cost-effective management of these resources within state institutions to achieve the expected results, outcomes, and impacts. Successful implementation of the National Energy Strategy depends on sound governance, clearly defined accountabilities, transparency, and the ongoing participation of a wide range of institutions within the government and externally.

The monitoring metrics will be measured through specific indicators, which were selected from the respective indicators used for the National Strategy for Development and Integration 2015-2020, RES Targets, EE Targets and NDC Targets already committed to by the Albanian Government until 2020. Implementation of the Strategy will be monitored through and benchmarked against a set of thirteen monitoring indicators, which are generally available on an annual basis. These monitoring indicators are listed below:

- Reduction of transmission technical electricity losses;
- Reduction of distribution non-technical electricity losses;
- Reduction of distribution technical electricity losses;
- Increasing rate of electricity collection;
- Level of cross-subsidies in energy supply
- Rate of switching the supplier
- Opening of the electricity market (percentage of energy supplied from the competitive market - both domestic and from imports);
- Self-sufficiency of domestic primary energy produced versus total primary energy supply
- Imports of energy;
- National Energy Efficiency Target;
- Utilization of renewable energy in TPES (RES Target);
- Biofuel Targets as a share of biofuels versus total fuel consumption in the transport sector;
- CO2 emission reductions; and
- Natural Gas Penetration.

Ministry of Infrastructure and Energy together with ERE, AKBN, EE Agency are responsible for monitoring and providing an efficient implementation of the energy strategy for all respective sectors. The annual monitoring report should focus on results, indicators, current and perspective tendencies, barriers encountered during the reporting period, lessons learned and achievements, measures to be undertaken for speeding up development in certain energy sectors and on the results reached during the reporting period. While the responsibility for the overall implementation oversight rests with the Ministry of Infrastructure and Energy, strategy implementation involves almost all line ministries, central government institutions and local government.

The monitoring indicators will be evaluated periodically by the Ministry of Infrastructure and Energy together with ERE, AKBN, EE Agency. Annual monitoring reports on the implementation of the National Energy Strategy will be presented for review to the Council of Ministers for approval.

Information will be collected for the respective monitoring indicators in accordance with the type of intervention. Monitoring data should be collected annually, and some of this data will be inserted into the Yearly Energy Balance, which is prepared and updated by the Ministry of Infrastructure and Energy through AKBN. A functional task of AKBN will be making requests for data that are to be generated by all public and private energy companies, and carrying out surveys for determining the level of consumption among various energy demand sectors. The data collected will be confirmed and transferred in EUROSTAT Energy Balance Template, where data will be processed and systemized in tables with the monitoring indicators. All monitoring indicators will be part of the annual monitoring report, which will be submitted for decision-making to the Ministry of Infrastructure and Energy, and then sent officially to the Council of Ministers.

3. OVERVIEW OF EU ENERGY ACQUIS AND INTERNATIONAL OBLIGATIONS/TREATIES TOWARDS ENERGY MANAGEMENT IN ALBANIA

3.1. Overview of EU energy acquis and current status in the energy sector in Albania

Integration into the regional and EU energy markets will be a crucial step for Albania to meet its growing demand for energy. With a projected annual GDP growth rate of 4% for the coming decades, energy consumption is also expected to increase. In order for Albania to sustain its growth, the country will need to find additional sources of energy and invest in its energy transportation and delivery infrastructure. New energy sources and infrastructure investments will help Albania's energy sector to continue its transformation towards a more competitive marketplace while aligning with the Third Energy Package initiative and objectives. Albania is one of the earlier Contracting Parties to have successfully achieved transposition of the Third Energy Package in 2015. As part of the Third Energy Package, emphasis on market opening and cross-border market integration are crucial steps towards a pan-European regional energy market.

Albania has adopted an Integrated Planning System (IPS) policy to provide operating principles for facilitating a coordinated and coherent government policy planning. One of the key features to IPS is the second National Strategy for Development and Integration (NSD-II) which describes the national social, democratic and economic development country's objectives over the period 2015-2020. Some of the strategic objectives in the NSDI-II for the electricity sector include:

- Increasing hydropower energy supply to 7.300 GWh/annum by 2020 (from 4.425 GWh in 2012).
- Reducing electricity losses in the distribution network to 19% by 2020.
- Start operation on the second half of 2018 of the 400 kV interconnection line between Albania and Kosovo (completed in 2016) with the assistance of the Energy Community Secretariat and European Commission.
- Strengthen the interconnection of electricity networks with Kosovo and Macedonia to improve the linkage of the Albanian energy system with the region.
- Aligning the electricity sector's legal and regulatory framework with the EU Acquis and meeting the obligations of the Third Energy Package.
- Regional market coupling.

In order to meet its obligations with the Third Energy Package and further promote and sustain its economic development, Albania is taking steps to remain attractive financially and economically in the energy sector. While being one of the first Contracting Parties to begin transposing the Third Energy Package in the electricity sector, Albania's electricity sector is characterized by a market structure in which most of the energy procurement is dominated by bilateral transactions for large customers, while most of the other customers and the retail market remains operated under a regulatory regime. Positively, the unbundling of operations and interests is underway, and the one positive aspect in the transmission ownership was adopted by law in 2016.

OST, the certified transmission system operator central to the development of a robust market, is tasked to ensure quality development of the transmission grid while ensuring

transparent and non-discriminatory grid access for market participants. It must also coordinate the planning and development of the transmission network with counterpart companies in the region. As part of its effort to strengthen its transmission network, Albania has initiated several improvement projects within the country, such as for the midterm (2017-2021).

In 1997, Albania ratified the Energy Charter Treaty and the Protocol on Energy Efficiency and Related Environmental Aspects (PEEREA), which committed the government to draft and implement policies for improving energy efficiency and reducing the negative environmental effects of the energy system. The aim of PEEREA is that contracting parties, including Albania, shall cooperate by assisting each other in developing and implementing energy efficiency policies, laws and regulations. In fulfilling its commitments under PEEREA, Albania presented a regular review of its energy efficiency policies in 2007.

The Energy Community Treaty (“EnCT”) was approved by the Albanian Parliament in April 2006 (Law No. 9501, dated 03.04.2006.). It provides a legal framework for convergence with the EU’s energy acquis⁵. Being a contracting party to the EnCT, Albania has made binding commitments to implement the relevant EU Acquis on energy, environment, RES and competition and to the promotion of investments, statistics, and social policy. Albanian authorities have explicitly acknowledged that energy efficiency and renewable energy deployment have the potential to bring benefits to the local consumers, reduce emissions and contribute to the security of supply. Energy security, sustainable development and international obligations are identified as the main drivers of energy efficiency policies with competitiveness, employment, comfort and climate change providing further incentive to the energy sector at the national level.

Analysis of a coupled electricity market between Albania and Kosovo has been analyzed and shown to provide the following benefits:

- Improved security of electricity supply, as Albania has almost 100% hydro capacities (strongly vulnerable to variable hydrological conditions) and Kosovo has almost 100% thermal capacities (partly very old and inflexible). The combined generation capacity mix is approximately 50% hydro and 50% thermal, which is expected to improve the security of supply through more efficient use of cross-border capacity and price signals. Based on the Memorandum of Understanding signed between Albania and Kosovo, both power systems are going to operate as a single bidding zone and are going to establish an efficient market.
- Efficient use of cross-border capacity and increased welfare on both sides.
- Improved power system control and system reserve synergies provided by the combination of thermal (base) and hydro (peaking) capacities.
- Improved investment climate to attractive potential generation investors.

The financial benefits associated with integrating the Albania and Kosovo electricity markets were quantified based on the savings that would come from the reduction of electricity

⁵ The EU’s “acquis communautaire on energy” is defined in Annex I of the Energy Community Treaty and includes a number of EU Directives and Regulations that are core to the regulation of the energy sectors of EU member states.

imports and the additional variable O&M costs for Kosovo Thermal Power Plants and the Drin River Cascade HPPs. The savings from reducing imports greatly overshadows the incremental operating costs for both the thermal and hydropower plants, and the net financial benefit for both systems averages 75 million euros annually between 2017 and 2030, with a cumulative benefit of over 1 billion euro by 2030. In such an environment where system resources utilization and trading occur based on market-driven principles, Albania in the long term could attract further generation capacity investment in renewable energy given its hydropower potential, achieve a smarter diversity of supply sources through energy imports from other countries thermal generation, and improve its security of supply. From a transmission infrastructure standpoint, such endeavours require the development of transmission interconnection between the concerned countries. To that effect, the projects mentioned below can be seen as part of the process to further integrate Albania and other Contracting Parties within a larger regional electricity market system:

- Starting commercial operation of the 400KV interconnection line between Tirana² (Albania) and Kosova B (Kosovo), which should increase the electrical energy exchange potential between Albania and Kosovo up to 600 MW. This project was commissioned in June 2016. However, in order to make this line operational the recognition by ENTSO-E of Kosovo transmission system as a separate control area is needed.
- Construction of a 400 KV interconnection line between Elbasan (Albania) and Bitola (Macedonia), which should increase the electrical energy exchange potential between Albania and Macedonia up to 600 MW. This project should be operational by 2021.

For Albania to take full advantage of the electricity market liberalization as directed in the Third Energy Package, additional steps towards its implementation are still needed. Some of the positive achievements to date include:

- April 2015 - Adoption of new power sector Law in the transposition of the Third Energy Package. It transposes Directive 2009/72/EC and Regulation (EC) 714/2009
- April 2015 onwards – Participation in the Coordinated Auction Office of South-East Europe with Montenegro
- October 2015 – Memorandum of Understanding on regional capacity coordination initiative with the TSOs of Kosovo, Greece, Macedonia, Turkey and Bulgaria.
- November 2015 onwards - Participation in the Coordinated Auction Office of South-East Europe with Greece
- January 2016 – Adoption of the law enabling ownership unbundling of OST
- April 2016 – Signing of the WB6 Memorandum of Understanding on regional electricity market development and establishing a framework for other future collaboration
- July 2016 – the adoption of set laws including:
 - Albania market model:
 - will consist of a day-ahead market, intraday-day market, settlement functions and a balancing market
 - will consider the coupling of the Albanian market with neighbouring markets
 - Price regulation phase-out
 - Action Plan for setting up power exchange (ALPEX)

Secondary legislation remains to be fully enforced⁶, more specifically with respect to:

- Balancing: the actual real-time balancing mechanism is not market-based. Further balance responsibility is not compliant with the acquis.
- Market Opening: full competitive market access on the retail markets is not expected before 2018 and will be performed in phases according to the voltage level
- Price Regulation: complete phase-out is not expected before 2019,
- Public Service Obligations: compliant methodologies for RES for operations have not been adopted nor implemented by ERE
- Eligibility: the distribution network tariffs are not cost-based relative to the voltage level, and the conditions for supplier switching still need to be practically implemented,
- Protection of Vulnerable Customers: rules on conditions for termination of the supply to this customer class are not developed.

Although the approval of new Power Sector Law and Albanian Market Model is the right step towards the implementation of EU acquis, a number of other activities are required to fully comply with them, which would enable further integration of the Albanian electricity market to the European market. These steps would include:

- Deregulation of wholesale prices and contracts (KESH-OSHEE)
- Development and adoption of market rules, including market participation criteria, standard contracts, settlement rules, etc. for the functioning of the day-ahead market;
- Revise grid codes reflecting the market developments;
- Adoption of the rules for security of supply;
- Development and adoption of transparent balancing mechanism with the final goal of establishing a competitive balancing market;

3.2. Overview of Albania Climate Change Policy

Albania is a signatory to the United Nations Framework Convention on Climate Change (UNFCCC), adopted at the “Rio Earth Summit” in 1992, which established the objective to combat climate change by stabilizing GHG concentrations in the atmosphere and limiting average global temperature increases to support sustainable development. The Paris Agreement, adopted in December 2015, provides a common framework for all Parties aimed at holding the increase in the global average temperature to well below 2° C above pre-industrial levels. To achieve such a long term goal, parties should aim to reach global peaking of GHG emissions “as soon as possible”, recognizing that peaking will take longer for developing country parties and to undertake rapid reductions thereafter in accordance with the best science available, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks in the second half of this century.

Based on the GHG Emissions Baseline Scenario and the Third National Communication and projections of the transport sector, assume that the energy demand for the Transport Sector will increase at the same rate as it was increasing since 2000. The potential measures for increasing energy efficiency, considered under the EE scenario and reduction of GHG to be considered are as follows:

⁶ Energy Community Annual Report (for the year 2016)

1. Implementing EE Targets for transport sectors of Albania based on 2nd and 3rd NEEAP already approved;
2. Implementing RES Targets for transport sectors (especially focus on biofuels to be consumed in this sector according to the respective targets) of Albania based on the first RESAP;
3. Reconstruction of existing poor quality roads and construction of new roads;
4. Road maintenance through public and private sector cooperation;
5. Increasing the share of public transport for passengers and freight transport (road, rail and waterways);
6. Increasing taxes for second-hand category cars in order to reduce at maximum their introduction to the Albanian market.
7. Promotion of an integrated intermodal transport system, which includes infrastructure/transportation by land and sea;
8. Further restructuring of the railway system, the creation of the Albanian Railway Authority, the reorganization of the Albanian Railways, through the total separation of operating activities from management activities and infrastructure maintenance;
9. Intensification of work for the creation of an integrated system of transport focused on the connection of ports of Durres, Vlora, and Shëngjini by rail;
10. Construction of an intermodal port in Shengjin, which will be one of the largest ports in the region, and will serve as a connecting point between the Adriatic Sea and other countries in central and eastern Balkan;
11. Construction of new tourist ports, equipped with the necessary infrastructure and modern logistics for this purpose;
12. Opening of the market and reducing the cost of travel fees for passengers, in order to increase the movement of passengers and goods;
13. Promotion of investments based on public-private partnership for domestic tourism purposes;
14. Construction of a new airport in the south of the country;
15. Enhancing regional collaboration in the area of air transport;
16. Enable a better performance of air safety functions, as well as strengthening the administrative and technical capacity in this sector.

The Paris Agreement also aims to strengthen the ability to adapt to the adverse impacts of climate change while ensuring a sustainable, resilient and low carbon development through adequate finance flows. The support should be provided by developed countries Parties to developing countries with respect of both mitigation and adaptation, continuing the existing collective goal to mobilize USD 100 billion per year until 2025 when a new collective goal will be set.

In order to achieve the emission reduction objectives, the Agreement establishes a “bottom-up system” where Parties will have to prepare and communicate successive nationally determined contributions (NDC) every five years with the aim of progressively improving their efforts. In addition to their NDC, Parties should also formulate long-term, mid-century low GHG development strategies, and submit them by 2020 that demonstrate how their efforts will contribute to the goal of zero-net emissions by the second half of this century.

Albania has signed the Paris Agreement on the 22nd of April 2016 in New York, and the agreement will enter into force after 55 countries that account for at least 55% of global emissions have deposited their instruments of ratification. The EU adopted the “Low-carbon Economy Roadmap”⁷ in 2011, setting out a cost-efficient pathway to make the European economy more climate-friendly and less energy-consuming. The roadmap suggests that, by 2050, the EU should cut its emissions to 80% below 1990 levels. Milestones to achieve this are 40% emissions cuts by 2030 and 60% by 2040. All sectors need to contribute to the low-carbon transition according to their technological and economic potential. The EU Low Carbon Economy Roadmap calls for actions in all main sectors responsible for Europe's emissions – power generation, industry, transport, buildings, construction and agriculture - and significant investments need to be made in:

- New low-carbon technologies
- Renewable energy
- Energy efficiency and
- Grid infrastructure.

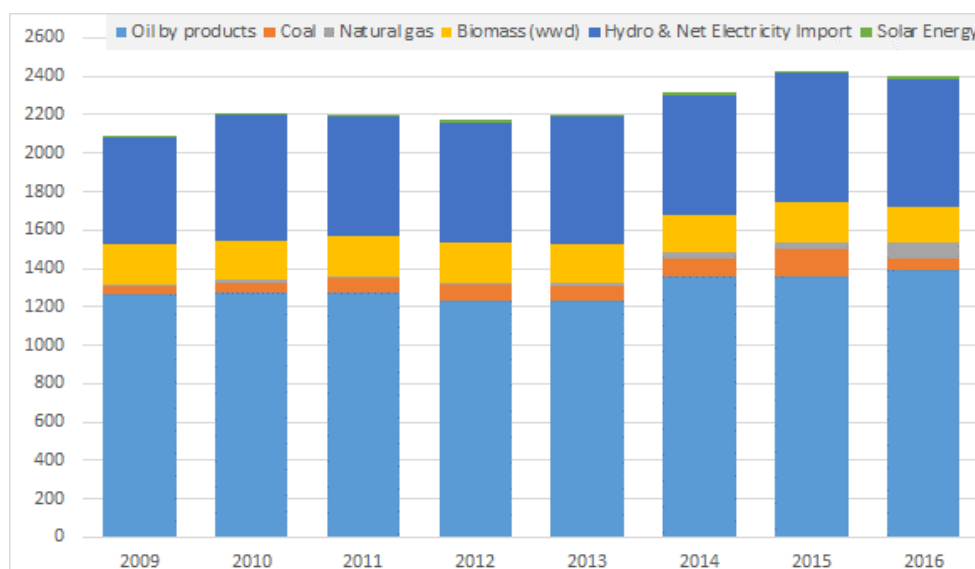


Figure 7: Energy supply (ktoe) for the period 2009-2016

In 2014 the Order of the Prime Minister No. 155, dated 25.04.2014 established an inter-ministerial working group on the coordination of the Ministries tasks, according to the country's obligations on UNFCCC. The group, chaired by the Deputy Minister of Environment, includes the representatives of 12 Albanian Ministries. The group has the mandate, among other things, to draft policies and strategies, ensure inter-institutional coordination for the implementation of climate change activities. In its first NDC, Albania has committing to reduce CO₂ emissions by 11.5% in 2030 compared to the Baseline scenario. Further analysis of this area, as well as targets and actions to be taken, will be provided in the Integrated Energy and Climate Plan to be prepared together with the Energy Community Secretariat.

⁷ COM (2011) 112 final/2. Available at: http://eur-lex.europa.eu/resource.html?uri=cellar:5db26ecc-ba4e-4de2-ae08-dba649109d18.0002.03/DOC_2&format=PDF

4. EXISTING TARGETS RELATE TO THE ENERGY SECTOR IN ALBANIA

The primary energy supply in Albania is dominated by oil by-products, hydro and net import electricity, fuelwood and a small amount of coal and natural gas, as shown in *Figure 8* and *Figure 9*. Oil by products have been reduced from 60% (2009) at 58% (2016), hydro & net import electricity have increased from 26% (2009) to 28% and wood has been reduced from 10% (2009) to almost 8% (2020). **Error! Reference source not found.** show the Final Energy Consumption in Albania in 2009 and 2016 respectively, demonstrating that the transport sector consumes the most final energy, followed by households and industry.

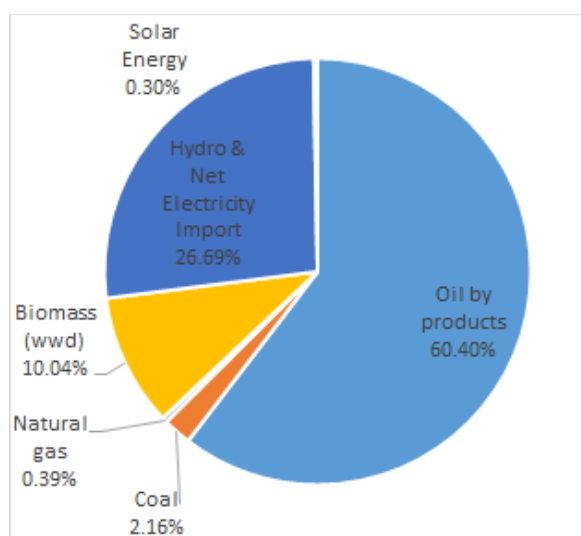


Figure 8: Primary Energy Supply for the year 2009 (%)

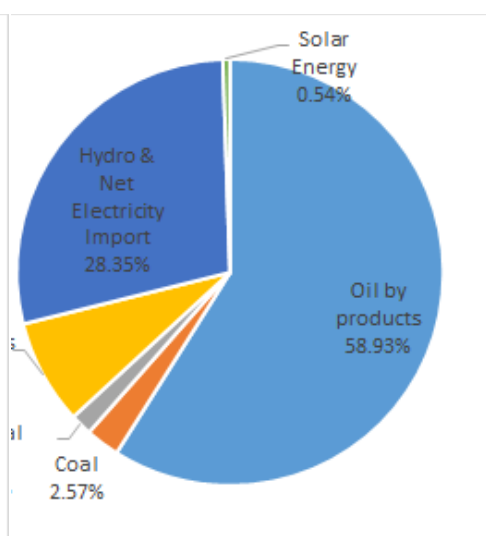


Figure 9: Primary Energy Supply for the year 2016 (%)

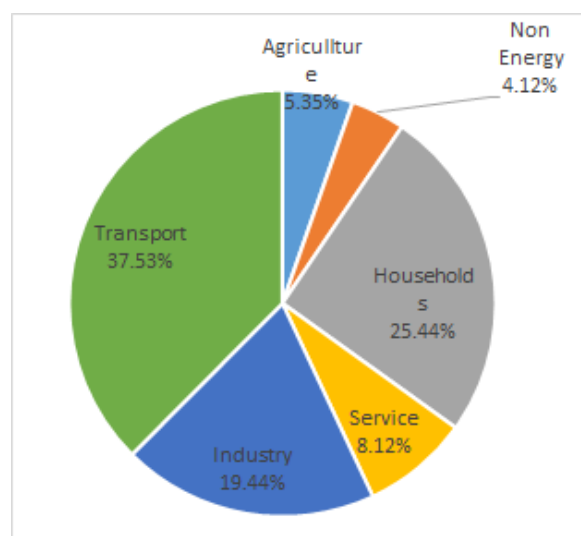


Figure 10: Final Energy Consumption for the year 2009 (%)

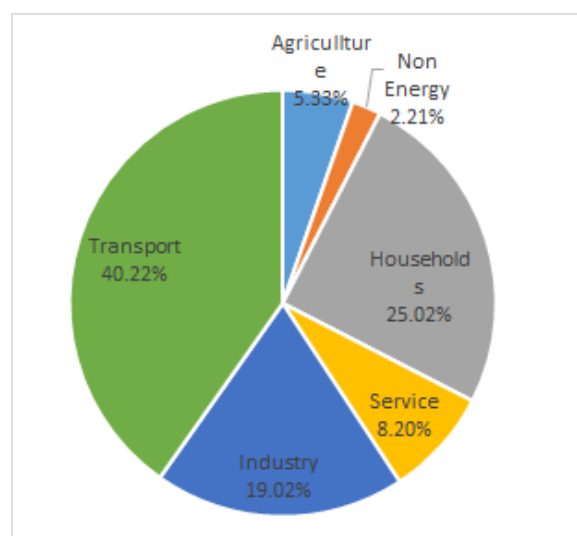


Figure 11: Final Energy Consumption for the year 2016 (%)

Electricity generation has been historically met almost exclusively by hydropower plants, with a total installed power capacity of 2.011 MW at the end of 2016. The country has exploited approximately 50% of its hydropower potential, and future expansion of hydropower capacity is possible mainly along the Drini, Mati, Devolli, and Bistrica rivers. Given that one of the most important natural renewable energy resources for electricity generation in our country is the hydro it is very important that Water Secretariat Responsible for Water Resources Administration should be monitoring all new licenses issued for the hydropower plant. Monitoring of water resources should guarantee the protection and preservation of water resources in the country, in accordance with the policies integrated into the field of water resource management.

The only thermal power plant, Vlora TPP, is not yet operational, and its conversion to natural gas is foreseen following the construction of the Trans Adriatic Pipeline (TAP). Albania imports electricity from neighbouring countries, although imports have progressively dropped in the last ten years following the increase in domestic power generation and the reduction of (technical and non-technical) electricity losses in the distribution system, which have been reduced from 45% in 2013 to 28% by the end of 2016⁸ with a clear investment and management plan to reduce them further to 17% by the end of 2022.

Albania's electricity market is under transition from a centrally planned to a market-based system. The wholesale power market is dominated by the state-owned, regulated generation company KESH, which supplies to OSHEE the electricity needed for captive customers under-regulated "full supply" condition. The competitive wholesale environment consists of independent producers and a small number of large customers supplied through bilateral contracts.

CO₂ emission indicators are of prime importance in the debate of Global Warming Potential and may signal a significant change in the level of efforts among developed countries and countries in transformation (like Albania). For comparison purpose among countries, Figure 11 shows the position of Albania among several different countries in terms of CO₂ emissions per capita generated from Energy Sector for the years 1994, 2000, 2005, 2009 and 2016.

⁸ Implementation of the project "Recovery of the Power Sector" and the recent revamping work carried out on the transmission-distribution networks during the years 2014-2020.

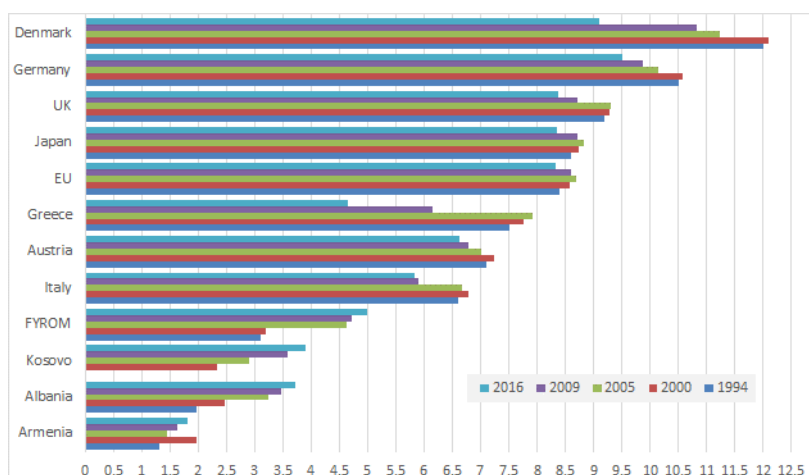


Figure 12: CO₂ emissions from energy sector for selected countries [ton CO₂/capita]⁹

According to this chart, the CO₂/capita for Albania is around 2-2.25 times lower than the average amount for industrialized countries, having the following explanations:

- Energy consumption per capita in Albania is still the lowest among the selected countries;
- Electricity production is based almost on hydro energy (more than 98% of electricity is generated by Hydro Power Plants and approximately about 1% from the solar photovoltaic system);
- Different energy services in the residential sector like space heating, domestic hot water, and cooking are based almost on electricity (residential sector consume 60% of total electricity).

Figure 13 shows both trends of CO₂ emissions for GDP (in 000 USD) and CO₂ emissions per capita and a very important conclusion could be drawn on: CO₂ emission per capita have been increased (which shows more energy consumption for Albania, which is associated with increased living standards for the Albanians) and from the other side CO₂ emissions per GDP have been reduced sharply especially for the period 2000-2009 and this was very important to get considered especially during the establishment of GHG mitigation scenario. Meanwhile, reduction of carbon intensity has been much lower for the period 2010-2016 and analysis of this indicator shows clearly that mitigation plan should include all EE/RES measures from energy and all other GHG reduction measures. Top important not only to quantify the measures, but also the road map of enforcement of their implementation.

⁹ Source: Energy Review in the World, IAE 2012

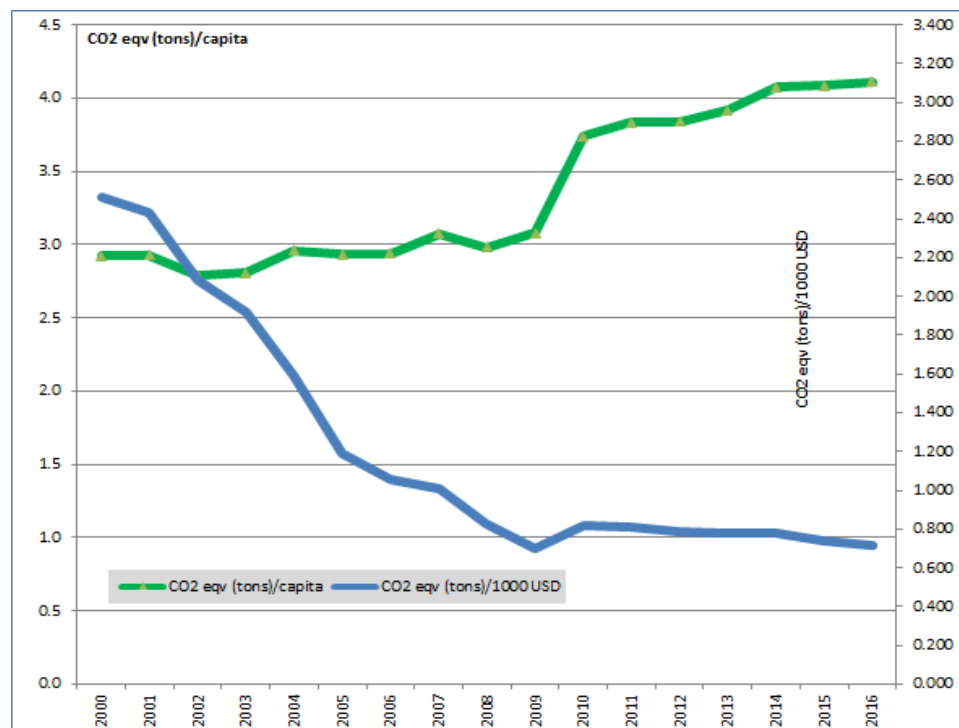


Figure 13: Trend of CO2 emission (tons) per capita and CO2 emission per GDP (tons/1000 USD) for Albania

Table 2 presents an initial set of monitoring indicators, which includes their baseline values (for the year 2015), short-term goals (2020), medium-term goals (2025) and long term goals (2030).

The annual reports shall address progress in all of energy sectors and subsectors, either in terms of significant achievement or in terms of significant issues, such as major policy shifts, serious implementation issues, or other factors. The reports will be produced in a timely manner so that government institutions and development partners might take the appropriate action. The production of the annual reports may be combined with an annual government–development partner conference or roundtable.

Table 2: Main energy indicators and targets for the national energy strategy

Indicators	Baseline Value	Short term goals -2020	Medium term goals -2025	Long term goals-2030	Responsible institution
Reduction of transmission technical electricity losses	2.20%	2.00%	1.80%	1.70%	MIE/ERE/OST
Reduction of distribution non-technical electricity losses	14.04%	8.00%	6.00%	4.00%	MIE/ERE/OSHEE
Reduction of distribution technical electricity losses	14.00%	9.00%	7.00%	6.00%	MIE/ERE/OSHEE
Increasing rate of electricity collection	90%	92%	95%	98%	MIE/ERE/OSHEE
Opening of electricity market	35%	40%	100%	100%	MIE/ERE
Self-sufficiency of domestic primary energy sources vs total primary energy supply (%)	47.47%	50.37%	52.31%	52.40%	MIE/AKBN
Imports of energy sources vs total primary energy supply (%)	52.53%	49.63%	47.69%	47.60%	MIE/AKBN
Energy Efficiency Target (%)	0.2%	6.8%	10%	15%	MIE/AEE
Utilization of renewable energy in TPES (RES Target) (%)	32.50%	38.00%	40.50%	42.00%	MIE/AKBN
Biofuel Targets as share of biofuels versus total fuel consumption in transport sector (%)	3.55%	10%	10%	10%	MIE/AKBN
CO2 emission as percentage reduction versus baseline (%)	0%	0%	5.75%	11.5%	ME/MIE/AKBN
Natural Gas Penetration (ktoe) versus total primary energy supply	0.36%	0.37%	5.10%	19.81%	ME/AKBN

5. SUGGESTED WAY FORWARD FOR DEVELOPING THE 2030 ACTION PLANS

The main priorities of Albanian Energy Policy are the following recommendations/guiding principles for 2030 energy management goals, targets, actions and priorities.

Priority 1: Security of energy supply

Security of energy supply means a permanent, secure, quality, and diversified energy supply in general, and electricity in particular, for all consumer categories, including vulnerable families, in order to balance supply with customers' requirements.

Priority 2: Development of a competitive energy market to be fully integrated into the regional and subsequently European market

The development of a competitive energy market means securing liberalized, nondiscriminatory, competitive, and open energy markets on the basis of transparent conditions and allowing free-market competition in the non-monopolistic activities (production and supply of electricity and natural gas); developing a pricing policy for energy based on market principles; and creating conditions for free entry of new participants in the market (independent energy producers, suppliers, traders). Some very important steps in this direction are making effective the ALPEX within the first part of 2021, advancing with the market coupling of the Albanian Power System with the Kosovar Power System by September–December 2021, and later, integration with the EU power market.

Priority 3: Sustainable energy development through (i) promotion of EE contributing to moderation of demand, (ii) increasing the use of renewable energy, and (iii) decarbonizing the economy

Sustainable energy development means providing energy development based on accelerated but rational use of indigenous energy resources while respecting the principles of environmental protection, improving EE and greater use of RES, reducing greenhouse gas (GHG) emissions according to the Nationally Determined Contribution (NDC) targets, and reducing acid rain gases emitted from the energy sector while supporting the need for the socioeconomic development of Albania.

Priority 4: Attracting investments and development of market competition

The National Energy Strategy is a multidimensional strategy with a long-term planning horizon (2018–2030) that involves a considerable number of sectors and subsectors, policies, and results. Given the uncertainties inherent in developing an energy strategy, the investment funding needed for each scenario was developed in general terms from the Long-range Energy Alternatives Planning (LEAP) model scenario results and specific sectoral cost parameters. The total investment needs can be sourced directly from private investors (foreign and domestic), donor institutions, and public institutions, including public funding from the State budget. The investment contributions can take the form of grants, loans and other anticipated capital and operational and major technical assistance funding. As explained in the National Energy Strategy, the goal is to have a minimal influence on the distribution of public expenditures and that the required investments should mostly come from private sources, development banks, foreign technical assistance, and finally from the State budget. To that end, it is intended that proposed financial instruments do not have (or have minimal) influence on the competitive market conditions in the context of free-market access and

development of sustainable market prices, with no cross-subsidization and in compliance with applicable EU rules on state aid.

Priority 5: Improving research, innovation, and competitiveness in all sectors and subsectors of the energy system

This priority is implemented through promoting and utilizing state-of-the art, cost-effective measures for boosting oil exploration, extraction, refining, and marketing; supporting natural gas exploration, extraction, and optimal utilization of the Trans Adriatic Pipeline (TAP) project; increasing use of solar hot water systems and electricity generation using hydropower, photovoltaic, wind, and biomass power plants—all while taking into consideration full protection of the environment. Priority Actions from the Strategy are as follows:

1. Maintain, rehabilitate, and modernize existing and construct new infrastructure for production, transmission, and distribution of electricity-oil-natural gas and other energy sources on the principles of the fulfilment of international technical standards, EE, reduction of losses, and minimizing the infrastructure's negative impact on the environment.
2. Gradually reduce energy import dependence by the following measures:
 - Reduce the specific consumption of final energy;
 - Increase domestic energy production from primary energy sources such as oil, natural gas, hydro, solar, wind, biomass, and secondary energy sources through the use of much more efficient transformation systems and plants; and
 - Reduce energy losses, from production to end-use consumption.From the current status of being an importer of electricity and refined oil products, Albania plans to become a self-sufficient energy supplier after 2024–2025.
3. Review the existing barriers hindering the implementation of different state-of-the-art technologies in all energy sectors for activation of all possible long-term energy development options.
4. Improve EE, which is represented by the following set of priority actions:
 - Provide institutional conditions and financial incentives with the purpose of improving EE and reducing energy intensity in all sectors, from production to end consumption of energy sources;
 - Reach the indicative target of EE improvement, in accordance with Albania's 2nd and 3rd National Energy Efficiency Action Plan (NEEAP);
 - Promote rational use of energy in central and municipal public buildings by implementing the *Energy Performance in Buildings (EPB) Law*;
 - Promote rational use of energy in household buildings by implementing the *EPB Law*;
 - Promote rational use of energy in private service buildings by implementing the *EPB Law*;
 - Promote rational use of energy in small, medium, and large industrial enterprises; and
 - Promote rational use of energy in transport and EE measures (such as improved public transportation, including railway transport, promotion of energy-efficient and low-emission vehicles, and integration of EE criteria in transport infrastructure projects).

5. Explore oil and gas in the Albanian undersea and continental areas.
6. The country should implement proactive policies to provide access to natural gas systems through international projects, based on the benefits of Albania's geographical position for the use of the TAP project by the following actions:
 - Establish a natural gas hub in Albania and serve as an interconnection center for gas pipelines toward Kosovo and the Ionian-Adriatic regions, and
 - Develop an internal natural gas transmission and distribution system (including plants for utilization of natural gas).
7. Increase RES use, which is represented by the following priority actions:
 - Create a favourable environment for the development and use of RES and reach the national target regarding the RES share in the gross final energy consumption;
 - Continue research on RES potentials and study work on the possibilities to use the remaining available RES potentials;
 - Foster an increased share of RES use in transport, aimed at achieving the RES share through the promotion of biofuels in overall consumption of energy in transport according to the *Biofuel Law*.
8. Promote improved heating and/or cooling systems in buildings by (i) substitution of direct transformation of electricity into heat and (ii) use of new environmentally friendly technologies, which means increased use of RES and use of high-efficiency heat pumps and systems (especially for small to medium-sized buildings) and cogeneration via utilization of TAP's natural gas for large public and private buildings.
9. Realize strategic 90-day stockpiles of petroleum products in accordance with the EU Energy Policy.
10. Promote increased operational efficiency of energy companies by reducing technical and commercial energy losses, as justified by their internal rate of return on investments.
11. Continue restructuring KESH and OSHEE, along with Albgaz, Albpetrol, and ARMO, in accordance with the principles of relevant EU energy legislation, and duly issue plans for further development.
12. Promote sustainable development of the energy sector in relation to environmental protection and international cooperation, especially regarding the reduction of GHG emissions.
13. Provide support to investors and improve conditions for implementing Clean Development Mechanism (CDM) projects pursuant to the verification of the Paris Agreement protocol for Non-Annex 1 countries.
14. Provide incentives for research, development, transfer, and application of new RES and EE technologies; increase investments in education and scientific research projects for international cooperation in the field of ecologically sustainable new energy technologies, including lectures on energy in the educational system.

15. Harmonize the legislative and regulatory framework in accordance with the EU requirements and ensure support for the development and accelerated implementation of Programs and Projects on RES use and implementation of EE measures, the substitution of diesel- and coal-heat-only boilers, and development of combined heat and power applications for local industries.
16. Create appropriate legislative, regulatory, institutional, and financial frameworks to encourage private sector involvement and investments in energy.
17. Secure social protection for vulnerable energy consumers, as well as for workers displaced by the process of changes in the energy sector.
18. Reach an agreement with the Kosovo Power System and those in other neighbouring countries in relation to the optimal utilization of joint hydropower potential and water management, particularly in the put of work the 400 kV line Tirana–Pristina completed from 2016, as well as advancing with the completion of the construction of new electric transmission lines of the 400 kV line Elbasan–Bitola.
19. Improve the regulatory process and professional independence of the ERE, aimed at continuous development of a predictable and clear regulatory framework and a favourable environment for investments into the Albanian energy sector.
20. Participate in active international cooperation in the energy sector.

6. GENDER EQUALITY AND SOCIAL EQUITY ANALYSIS

As a candidate country adhering to the European Union, Albania has made some steps on the energy transition towards a low carbon energy system. The first transition on the Albanian energy sector started soon after the ending of the fall of communism in Albania, where it was inherited a vertically integrated power market structure. Among the first reforms, there was the separation of the vertical integrated Albanian Electroenergetic Corporation (KESH) functions to generation, transmission and distribution in 2001.

Some years later, first hydropower plants were being built by private investors (independent power producers) and the first power purchase agreements (PPA) were signed, which marks the changing to Single Buyer market model. Later in 2015, with the approval of the Law on Power Sector, the unbundling of the power sector started, and currently, the Wholesale market model is almost in place, while the Albanian day-ahead and intraday Power Exchange remains to be established.

The energy transition towards the embracing of renewable energies and reducing the usage of fossil fuels is ready to take place. Like with every transition, the implications it may bring to different groups of society are not quite known, and the need to foresee and consider all possible scenarios is very crucial, especially for policy-makers.

The energy sector in Albania has poor gender diversity and a transition to change this status quo is yet to commence. It is dominated by men where the men employees significantly outnumber woman employees and also men receive higher salaries than women for the same job position.

Based on the reports and statistical system in the energy management sector in Albania, it has been noticed that disaggregated information is provided only by INSTAT on its statistic “based on gender” publication “Women and Men in Albania, 2018”. As expected, the indicators related to the energy sector specify that the energy sector employees 6 times more men than women and also the gender pay gap is the second highest after the construction sector.

On the contrary, at the institutional level, the yearly report of Transmission System Operators shows that the number of female employees in their high management level is 40%. Still, this result is very specific as it refers only to the management level and doesn’t indicate how the total number of employees stands based on gender. Considering these results, it can be concluded that gender equality continues to be an issue in the energy sector in Albania. Moreover, to better perform a gender analysis, it is very important that the data’s considered are sex-disaggregated, which would help to correctly evaluate gender-sensitive indicators. All data is analyzed from the following documents:

1. National Energy Strategy 2018 – 2030
2. Second and Third National Energy Efficiency Action Plan for Albania, 2016 – 2020
3. National Strategy for Development and Integration 2015 – 2020
4. Strategic Plan for the Reform of the Energy Sector in Albania, 2018 – 2020
5. The Consolidated National Action Plan for Renewable Energy Sources, 2019 – 2020

Keywords searched	GESEP in principles	GESEP in Situation Analysis	GESEP-related goals	GESEP-related targets and indicators	GESEP-related actions and responsible institutions (or recommendations)
Vulnerable group*	- Tariff reform with aim of protecting the vulnerable household consumers (pg. 20) - Low-cost investment grants on improving energy efficiency for vulnerable groups (pg. 29) - Specific funding schemes for vulnerable groups of families (pg. 30) - Drafting of rules and subsidy conditions for the support of vulnerable costumers (pg. 44-45, 48)	-The National Energy Strategy foresees the energy sector reforms needed for the unbundling of the energy market. The development of electricity tariff reform should take into consideration the development of sustainable tariff reforms to protect vulnerable household consumers, as well as to increase the efficiency of the power system of Albania. (pg. 20) '- The National Energy Strategy, based on the law 124/2015 foresees the creation of the Energy Efficiency Fund (EEF) and further establishment of the Agency for Energy Efficiency which will provide grants and specific funding schemes on energy efficiency measures investments for the vulnerable groups (families with low income). (pg. 29-30) - For Albania to benefit from the electrical energy market liberalization and to completely integrate into the regional energy market one of the needed steps is related to the protection of vulnerable costumers by drafting and specifying the rules on supply support and subsidy conditions for this category of customers. (pg. 44-45, 48)	- Protecting the vulnerable household consumers with regulated tariffs (pg. 20) '- Supporting Vulnerable Groups through grants and specific funding mechanism (pg. 29-30) - Drafting and approving the rules and conditions on supporting and subsidizing the vulnerable costumers	- Approving regulated tariffs for vulnerable household consumers (pg. 20) - No targets/ indicators (the EEF is yet to be established) (pg. 29-30) - The regulation to be approved by the end of 2018 (yet to be approved) (pg. 44-45, 48)	- Drafting and approving the regulation on tariffs for vulnerable household consumers, ERE, MIE, CoM (pg. 20) - Establishment of the EEF, Establishment of Specific Funding Schemes (pg. 29-30) - Drafting and approving the regulation, ERE, MIE, MHSP (pg. 44-45, 48)
Equit*	Price equity instead of equality for the customers connected with the low voltage grid to support impact mitigation for poorer consumers. (pg. 24)	Currently, the Universal Service Provider (USP) enables all categories of consumers connected with the low voltage, to benefit from relatively affordable electricity prices. The government, in cooperation with the Energy Regulatory Entity (ERE), will need to take further steps and replace the USP responsibility with a clear government commitment to support impact mitigation for poorer customers, instead of uniform support for all categories of customers at low voltage. After careful identification of such customers, according to transparent and well-defined terms and conditions, a support fee may be applied for customers who will benefit, meanwhile other consumers pay reflective cost tariffs. (pg. 24)	Social Equity on electrical energy pricing for low voltage customers	No targets/ indicators (all is yet to be determined)	Defining the poorer customers according to transparent and well-defined terms and conditions. The responsible institutions will be ERE, USP (OSHEE Group), and Albanian Government.

Table 3: Gender equality and social equity analysis related to the Second and Third National Energy Efficiency Action Plan for Albania, 2016-2020 (National level)

Keywords searched (replace by words in ALB accordingly)	GESEP in principles	GESEP in Situation Analysis	GESEP-related goals	GESEP-related targets and indicators	GESEP-related actions and responsible institutions (or recommendations)
Equit*	Equity in defining peak hours to better serve all consumers	The second and third National Energy Efficiency Action Plan takes into consideration using the peak demand and price by the time of use to establish the demand side management by providing to the consumers lower tariff during no peak times. The use of a peak demand charge would incentivize consumers to reduce their peak demand either by load shifting to smoothen their demand profiles or through a reduction in overall consumption. However, a more cost-reflective approach still would be to base the charge of usage coincident to system peak rather than customer peak. This could be spread between the three highest peaks to avoid unfairly benefitting those who, by accident, had a very low demand in a single peak hour. (pg. 16)	Social Equity on determining more than one electrical energy peak hours for costumers (pg. 16)	three peak hours based on system peak. spread to benefit different consumers. (pg. 16)	Establishing three peak hours. The responsible institutions will be ERE and MIE. (pg. 16)
Young/youth	Social Inequality, focusing the driver campaign with particular emphasis on young people. (pg.93)	In the second and third National Energy Efficiency Action Plan, the list of measures for the transport includes among others Information and education campaigns as an energy-saving measure. Development of an integrated information and education campaign with the main aim of drawing people's attention to the negative impacts of individual motor vehicle traffic and the positive effects of cycling, walking, and using public transport could result in significant energy savings. The target group intended is "Citizens and drivers with particular emphasis on young people". (pg.93)	Inequally focusing the campaign on young people (pg.93)	a measure which aims to target specifically young people (pg.93)	Several working steps should be implemented: • A survey on the characteristics, behavioural and concrete needs of the target group • An action plan on information campaign (promotion material, workshops and training courses) • Events for strengthening the image of public transport and electro-mobility • Integration of the citizens in discussions about mobility issues and planning processes through public events, TV and radio trailers as well as newspaper articles The campaign should consider development of branding to promote the use of sustainable transport modes. Responsible institution: MIE, AEE

Table 4: Gender equality and social equity analysis related to the Decision No. 742, date 12.12.2018. on the Approval of the Strategic Plan for the Reform of the Energy Sector in Albania, 2018 - 2020

Keywords searched (replace by words in ALB accordingly)	GESEP in principles	GESEP in Situation Analysis	GESEP-related goals	GESEP-related targets and indicators	GESEP-related actions and responsible institutions (or recommendations)
Vulnerable group*	Protecting vulnerable groups by fulfilling their energy needs (pg. 166)	The National Strategy for Development and Integration specifies the challenges that the energy sector should fulfill in the timeframe 2015 - 2020 for Albania to fulfill its obligations arising from the Energy community treaty and as a country adhering to the European Union. The approval of Law No. 43, 2015 on Power Sector marks a positive step towards reaching this objective. Among the many challenges that remains, the fulfillment of the needs for energy of vulnerable groups is a key objective. (pg. 166)	Meeting the energy needs of vulnerable groups (pg. 166)	The secondary legislation arising from law 43/2015 to be approved (pg. 166)	- Drafting and approving the secondary legislation. Responsible institutions: ERE, MIE, MHSP. (pg. 166)
Vulnerable group*	Creation of temporary and permanent support schemes for vulnerable groups (pg. 2)	The Strategic Plan for the Reform of the Energy Sector in Albania, foresees that the changes that are expected to happen in a short timeframe of 2 years, will bring significant changes to the electricity prices (with a tendency to increase) and it highlights the need to establish support scheme for the vulnerable groups that are expected to be affected most from the unregulated market price. (pg. 2)	Development of a support scheme for vulnerable groups (pg. 2)	Drafting the support scheme for vulnerable groups and sending it for approval. (pg. 2)	Ensuring that market opening and price deregulation have a minimal negative economic impact on consumers in need and households that risk suffering most from electricity price liberalization. Responsible institutions: CoM, MIE. (pg. 2)

Based on the results from the analysis it can be concluded that the issues concerning the vulnerable groups supply with electricity and energy poverty, in general, is considered in all of them as a need to ensure social equity in the energy sector. The electricity pricing in Albania is relatively cheap compared with European Union countries where the energy transition is in a much more advanced phase.

However, before 2014, the Albanian government had put in place two different electricity tariffs for household consumers aiming to support vulnerable groups and low-income families. The electricity price was 7,7 ALL/kWh¹⁰ for the first 300 kWh and 12,5 ALL/kWh for the energy used above the 300 kWh limit. After 2015, the electricity price for all consumer alike was changed to a fixed price of 9,5 ALL/kWh, and it continues to be the same without providing any coverage for the vulnerable or in need consumers.

With the progression of the energy transition, the increase of electricity price once the unregulated electricity market kicks-in, is something that is expected to occur and the responsible institutions should have all the protective mechanisms in place when this happens.

The Law on Power Sector No. 43/2015, fully aligned with the EU Directive 2009/72/KE, defines vulnerable consumers as household consumers who, due to social status, are entitled to some special rights related to electricity supply, provided in exceptional cases as specified by this law. More specifically, article 95 and 96 are dedicated in particular to the protection of vulnerable consumers. Regretfully, five years after its approval by the Albanian parliament, the criteria and procedures for gaining the status of a vulnerable consumer are not yet in place. Ministry of Health and Social Protection is the responsible institution to draft and send this secondary legislation for approval to the Council of Ministers, in collaboration with Ministry of Infrastructure and Energy, Ministry of Finance and Economy, in consultation with Energy Regulatory Entity and other stakeholders. On the other hand, ERE has already drafted and approved the “Regulation on specific conditions for interruption of electricity supply to vulnerable consumers” so the above secondary legislation is all that remains for this protective mechanism of vulnerable consumers to be in place.

Currently speaking, the only protective instrument for the vulnerable consumers is the Public Advocate (Ombudsman) Institution and the Commissioner for Protection Against Discrimination. Both these institutions handle complains about the possible interruption of electrical energy to vulnerable consumers due to their unavailability to pay for its supply, but even though they perform their activities with competence, they are still not able to provide a solution for these consumers in need.

Databases, sources of statistics and information systems (including statistics) in the energy management sector in Albania.

The monitoring, verification and reporting activities for the energy management in Albania are under the responsibility of the following key institutions operating in the energy sector:

¹⁰ 100 ALL = 0,81 EUR (as of 27.10.2020)

- Ministry of Infrastructure and Energy (MIE)
- Energy Regulatory Entity (ERE)
- National Agency of Natural Resources (NANR)
- Agency for Energy Efficiency (AEE).
- Albanian Electroenergetic Corporation (KESH)
- Transmission System Operator (TSO)
- Distribution System Operator of OSHEE Group (DSO)

Based on the Ministerial Council Decision No. 547, date 09.08.2006., the National Agency of Natural Resources (in alb. AKBN) is responsible for drafting and publishing the Yearly Energy Balance in the national and regional level, in compliance with the Eurostat and International Energy Agency templates. This is published on the official website of NANR (www.akbn.gov.al) and also delivered to the Energy Community Secretariat. Since the year 2015 NANR is part of JODI organization (Joint Organisations Data Initiative)¹¹ where it delivers monthly data on production of oil and gas in Albania. Moreover, NANR provides much specific statistical information on its website such as: Production and consumption of primary energy, Production and consumption of primary energy per capita, Renewable energy potential in Albania, Hydro Energetic Potential of Albania, etc.

The Energy Regulatory Entity (ERE) among many other responsibilities is responsible for the monitoring and controlling of the electrical energy market. Based on Law No. 43/2015 on the electrical energy sector, ERE prepares yearly reports over the electrical energy sector and its activities for the previous year. This report is published on the ERE official website¹². The report contains statistical information on the production, transmission, distribution and balance of electrical energy for the given year. Also, it provides information over the monitoring activities performed by ERE on the electrical energy market, regulation of the natural gas sector and also its activity in regulating tariffs and prices for electricity and natural gas.

For performing its monitoring responsibilities, the Board of ERE approved on 12.12.2019. "The Rules for Monitoring of the Electrical Energy Market" which obliges the stakeholders to report every 30 days by e-mail (until the online platform is built) the required information. Although these databases are not available for the public, the template of the forms and information they contain can be accessed on the ERE board decision No. 203, data 12.12.2019. The Rules for Monitoring of the Electrical Energy Market Annex A and B. Other than this, ERE provides different monitoring reports time after time, such as Consumption of Electrical Energy in Albanian Families, 2009.

The key institutions providing data's and statistics for the electrical energy sector include:

- Albanian Electroenergetic Corporation (KESH) which owns three of the biggest hydropower plants in Albania with 1.350 MW installed capacity and one Thermal Power Plant with 98 MW installed capacity (not currently in operation);

¹¹ www.jodidata.org

¹² www.ere.gov.al

- Transmission System Operator (TSO) which is responsible for the management of the high voltage transmission grid (above 110 kV), for balancing of supply and demand and auxiliary services;
- Distribution System Operator of OSHEE Group (DSO) as to January 2020, the OSHEE Group has started to operate even in practice into three separate companies:
 1. Distribution system operator – which is responsible for the maintenance and improvement of the medium and low voltage (below 110kV) distribution network.
 2. Universal Service Supplier – which is responsible for the supply of electricity to the final costumers not obligated to go to the regulated market.
 3. Unregulated Market supplier – which is responsible for electrical energy management and purchasing, and also operating in the unregulated market.

From the above, the TSO provides periodic information on its official website¹³ on daily production, consumptions, monthly misbalances, etc. The rest of the institution, are obliged by the Law No. 43/2015 On electrical energy sector to provide data on their production, distribution and supply of electrical energy, to the Energy Regulatory Entity and the Ministry of Infrastructure and Energy. Based on this information, the National Agency of Natural Resources prepares the Yearly Electrical Energy Balance.

Another key institution in the energy sector is the Agency for Energy Efficiency (AEE). AEE was started with the first practical work at the end of 2018 as an institution responsible for the promotion of energy efficiency and for monitoring, verification and reporting the energy efficiency measures implemented throughout the building, industrial, agriculture and transport sector.

Based on law 124/2015 “On Energy Efficiency”, AEE monitors the implementation of the National Energy Efficiency Action Plan and is responsible for overseeing the implementation of energy efficiency measures. Based on the same law, the AEE is responsible for creating and managing an energy database for the final energy consumption achieved by the implementation of EE measures based on the format approved by the responsible minister for energy. Unfortunately, this format is not approved yet and the data gathering its yet to be in place. Moreover, as a beneficiary of the Open Regional Fund for South-East Europe - Energy Efficiency (ORF-EE) AEE is about to implement a Monitoring and Verification Platform, for purposes of collecting data for reporting on the implementation of the country’s National Energy Efficiency Action Plans, as stipulated by the EU Energy Services Directive (2006/32/EU) and the repealing Energy Efficiency Directive (2012/27/EU), as well as by other relevant policies or action plans on the national or local level. This software is expected to be installed on the AEE server by the end of 2020.

The primary statistical information institution in Albania is the Institute of Statistics or INSTAT¹⁴. It is operating based on law No. 17, date 05.04.2018. “On Official Statistics”, INSTAT is responsible for the preparation of Official Statistical Program which defines the strategy for the development of official statistics and the National Statistical System for the five-year period, aiming to meet users' requirements for quality statistics. INSTAT, as the

¹³ www.ost.al

¹⁴ www.instat.gov.al

leading institution, collaborates with other statistical agencies for the preparation of this program.

Ministerial Council Decision No. 10, date 09.02.2017. on the approval of National Statistical Program for 2017 – 2021, specifies the following Energy statistic to be published by INSTAT:

- Energy Balance (Annual data are published in the annual electricity balance)
- Electrical Energy Balance
- Quarterly statistics on the amount of electricity generation (limited to the amount of electricity generation within the country)

The balance sheet presents the specific origin and uses according to energy sources and consists of two main parts, energy supply and use. Electricity statistics are published for a period of six months based on the monthly data collected from administrative sources. The statistical agencies that provide the main data for the construction of these balance sheets are KESH, TSO, DSO (OSHEE Group) and NANR.

As mentioned above, INSTAT collaborates closely with NANR preparing all data in the field of energy and the two institutions together report this information to EUROSTAT following the procedures of EDAMIS system (<https://webgate.ec.europa.eu/edamis/>). Based on the same information, EUROSTAT publishes annually the Energy Balance Sheet.

Other than this, INSTAT publishes general information also which can contain information on Energy statistic such as: Men and Woman in Albania, People and Work in Albania, etc.

Finally, most of the monitoring and verification results are reported to the Energy Community Secretariat, which uses them to publish the Annual Implementation Report on the progress achieved by Albania for the implementation of energy acquis within the agreed timeframe and other nationally determined contributions in the sector of Electricity, Gas, Oil, Renewable Energy, Energy Efficiency and Climate.

7. ALBANIA'S ENERGY TRANSITION PROGRESS

When it comes to EU affairs, Albania is currently waiting for the negotiations open decision to be adopted by the Member States so that hopefully the German rotating Presidency of the Council of the EU can present the agreed General EU Position in the first inter-governmental conference with Albania, marking the formal start of the accession negotiations.¹⁵ As known, both Albania and North Macedonia were waiting for the green light to start the negotiations for some time and that finally came during the pandemic in spring 2020 when EU foreign ministers approved the start adding both countries to their neighbours Serbia and Montenegro in the run towards the EU. Two countries are still outside of the process, for now, Bosnia and Herzegovina and Kosovo.

As the region is usually considered as one, it is safe to assume they will not be left out for long as it was clear from the most recent state of the Union speech by the Commission's President Ursula von der Leyen where she stated that the decision to open accession negotiations with Albania and North Macedonia was truly historical and that the future of the region is in the European Union and that Western Balkans is not a stopover on the Silk Road.¹⁶ These developments, coupled with the EU Green Deal would mean that the reform dynamic in both the Western Balkans and Albania will be accelerated.

Before looking into how there can be a Balkan Green Deal, it is important to note down Albania's current progress in the energy transition. As mentioned in the previous chapters, Albania has been on the reform path for a long time. As an EnC Treaty contracting party it has been implementing the EU acquis in the area of energy and lately environment for ca 15 years now. The progress has been somewhat uneven and far from finalized. In Graph 1 is seen the implementation score of the contracting parties for 2019 and altogether they are below 50% while Albania has made nearly no progress compared to 2018. The best score goes to Montenegro, however, most progress from the Western Balkan countries goes to North Macedonia. Albania has most progress in the renewables and environment sectors and the least in the climate sector, which is still in its infancy.¹⁷

¹⁵ European Commission, https://ec.europa.eu/commission/presscorner/detail/en/IP_20_1021

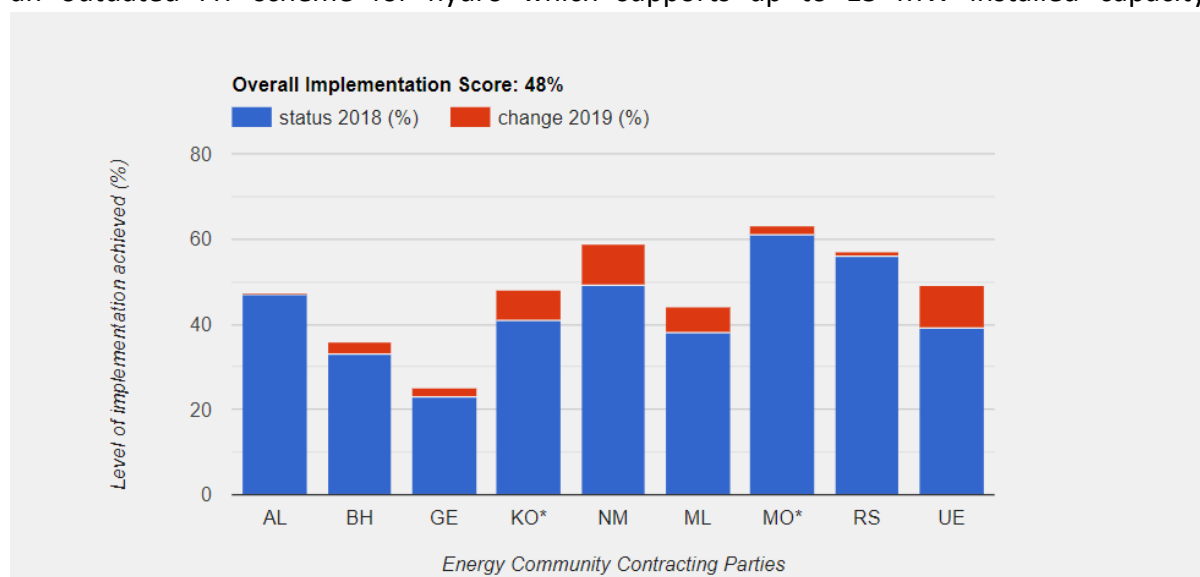
Figure 14: Energy Community of SEE Contracting Parties' implementation performance 2019

(Source: Energy Community)

Energy Community Secretariat, Annual Implementation Report 2019, November 2019, page 17

Like in many of the cases, Albania has been good in incorporating the necessary legislation but the progress of the actual implementation has been missing. Looking at the Energy Transition Tracker¹⁸, also launched by the Energy Community in 2020, Albania at least in the electricity sector has seen some positive development. For instance, in 2020, Albania established the Albanian day-ahead market (ALPEX) and also the coupling with Kosovo has been accelerated. Further, in May 2020, it has announced the results of a second solar PV auction for 140 MW where a remarkable price of 24,89 EUR/MWh was achieved. This just shows the attractiveness of RES in the region and how the falling cost of technology can accelerate the uptake of renewables in a region where such developments are long overdue.

However, even though Albania has market-based support for solar in the form of the fixed purchase price/Contract for Difference (once the market is operational), it also has in place an outdated FiT scheme for hydro which supports up to 15 MW installed capacity.



Eventually the procedures regard the hydro technology will have to be reshaped, and on that note, Albanian PM Edi Rama just recently announced that Vjosa river, will not see any construction in regards to new HPP projects.¹⁹ This is an important development as Vjosa is considered one of Europe's last living wild rivers which have no regulated flowing.

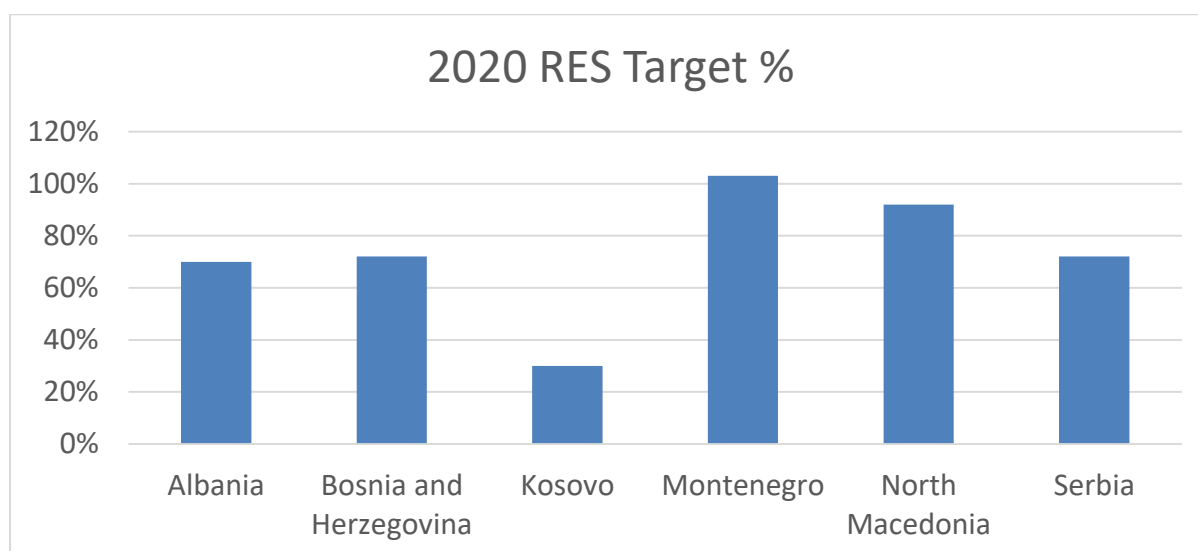
¹⁸ Secretariat WB-6 Energy Transition Tracker <https://www.energy-community.org/news/Energy-Community-News/2020/07/16.html>

¹⁹ WWF, https://wwf.panda.org/wwf_offices/wwf_in_europe.cfm?921491/Albanian-PM-Rama-Vjosa-River-to-Remain-Free-of-Dams-in-Albania

In the words of the Energy Community Secretariat:

“The Energy Community’s first energy transition, from post-socialist, inefficient and non-transparent energy systems to functioning and integrated energy markets, has not yet been accomplished, and that hampers the second, the clean energy transition. The electricity markets, for instance, are still widely not served by a power exchange nor are they coupled. Integrated generation and supply companies, often state-owned and under excessive public service obligations, reserve the bulk of electricity for their own domestic customers, not because they would produce it cheaper (all externalities factored in) but because they can be easily subsidized, directly or indirectly though foregone profit. Under these conditions, regional trade is the exemption, not the rule, and markets remain illiquid. The situation is exacerbated by the lack of proactivity of regulators and systemic conflicts of interest of still bundled grid operators.”

Coming back to the Energy Tracker, however, Albania has unfortunately completely missed its target for renewables in all three areas, electricity, transport and heating and cooling for 2020. In the electricity sector, for instance, only Montenegro managed to reach the RES target (*Figure 15*), making it quite clear that in Albania and the other WB countries the reforms need to be accelerated if they plan to even come close to reaching any 2030 target. In transport, the share is almost non-existent which goes to show how dependent Albania is on fossil fuels in this sector (crude oil and oil products are more than 50% of its primary energy supply). In heating and cooling, there is no real progress as all WB-6 countries count inefficient biomass as a renewable energy source. Albania also missed its energy efficiency target for 2020.²⁰



*Figure 15: 2020 RES share in electricity target
(Source: Energy Community, Integrated National Energy and Climate Plans)*

²⁰ Secretariat WB-6 Energy Transition Tracker.

Concerning the National Energy and Climate Plans (NECPs), they are mandatory for the EU Member States (MS) in relation to meeting the EU's energy and climate targets for 2030. Those current targets are:

- a) At least 40% cuts in greenhouse gas emissions (from 1990 levels);
- b) At least 32% share for renewable energy;
- c) At least 32.5% improvement in energy efficiency.

The final NECPs were submitted in 2019, however, due to the raising climate ambition plans under the European Green Deal, they will have to go through an update at some point. The NECPs cover a detailed ten-year planning period starting from 2021 to 2030, while the period up to 2050 is covered by long-term strategies developed at the EU and national levels. In addition, integrated reporting on the progress of implementation will take place every two years. As for the content, it is important to know that they are not a tentative wish list but a concrete plan with measures on how to achieve the 2030 targets. The point is to go through the necessary energy transition while minimizing the consumer costs and environmental impacts and maximizing the security of supply.²¹

As for which areas are covered under the NECPs they are as follows:

- a) Greenhouse gas (GHG) reductions;
- b) Renewables;
- c) Energy Efficiency;
- d) Interconnections;
- e) Research and Innovation.

Regarding the contracting parties of the Energy Community, as they are still not EU members there is no mandatory obligation to meet EU's targets. However, as all WB-6 countries are in different lanes towards becoming full members one day, through the Energy Community, they are encouraged to prepare such plans. Convergence between the EU and the region is still far away, and as the EU prepares to have one integrated Energy Market including these countries, the restructuring and reforming being done under the Energy Community auspices should assist the WB-6 on this path. In that regard, they started preparing the NECPs later than their EU counterparts, and currently, only North Macedonia has submitted its full first draft while Albania has submitted draft chapters to the EnC Secretariat for guidance (*Figure 16*). The timeline for NECP finalization, as set by the Secretariat's non-binding Policy Guidelines, is the end of 2020.²² Albania as seen on the Figure is the 2nd most advanced country when it comes to having an NECP in place right behind North Macedonia. As for the content, the official draft is not publicly available, which makes it hard to judge regarding its proposed measures and how they relate to the above-mentioned targets and EU's climate ambition.

²¹ Agora Energiewende (2019): Climate (Un)ambition in South East Europe – A Critical Assessment of the Draft National Energy and Climate Plans

²² WB-6 Energy Transition Tracker, p. 16.

State of National Energy and Climate Action Plans preparation

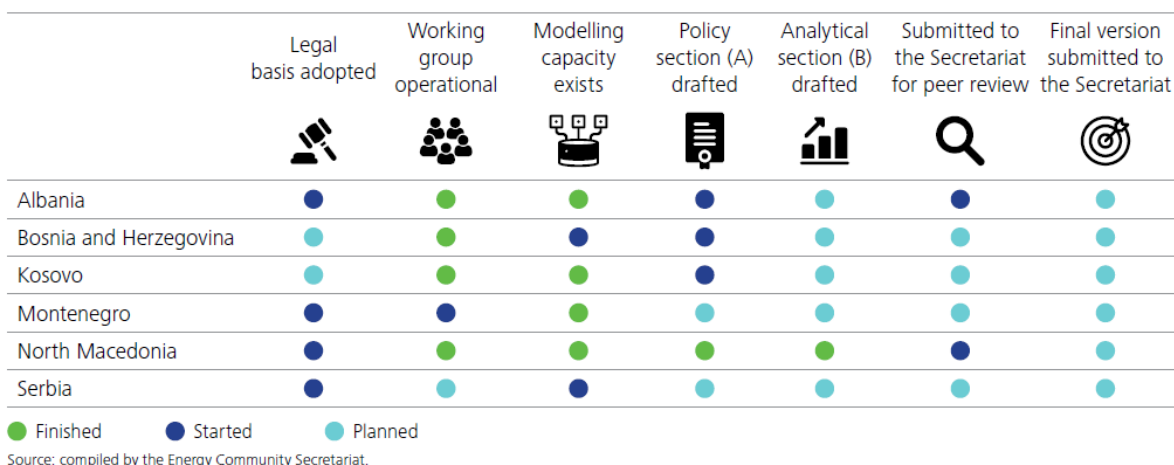


Figure 16: NECPs Progress in the Energy Community WB-6 contracting parties,
(Source: Energy Community)

7.1. EU vs Balkan Green Deal

As mentioned, the EU is currently looking into raising its climate ambition by even larger GHG reduction as well as raising both the RES and EE targets by 2030. **The current proposal of the Commission is to raise climate ambition to GHG reduction target to at least -55% compared to the previous -40% in order to accelerate the transition towards net-zero emissions economy in less than 40 years²³** (Figure 17). This is part of the broader framework of the earlier proposed European Green Deal (EUGD) which is the flagship growth strategy of the EU (**Error! Reference source not found.**) as well as the proposed Climate Law which would be legally binding.

The end goal is to have climate natural, fossil-free EU by 2050. Hence why both the Green Deal and the Climate Law²⁴ are at the heart of the new Commission for the legislative period 2019-2024. The implementation of the EUGD is set to be supported with significant investment of at least EUR 1 trillion over the next decade and from that at least EUR 20 billion a year should help companies to become world leaders in clean technologies.

As for the current timeline, EC is preparing the necessary update of the EUs 2030 climate and energy framework and already proposed as said -55% GHG reduction target which the German Presidency hope it will be adopted by the EU leaders before the end of its Presidency in December 2020. Then by the summer of 2021, the Commission will table a broad range of legislative proposals to follow through. From the summer of 2021 to early 2024, the European Parliament and the Member States in the Council of the European

²³ In the initial EUGD proposal the GHG reductions were to be at least -50% and towards -55% compared with 1990 levels. In the State of the Union speech by EC President von der Leyen only the -55% was proposed.
https://ec.europa.eu/info/sites/info/files/soteu_2020_en.pdf

²⁴ The Climate Law would make legally binding the targets and policies under the European Green Deal for all MS. Its objectives are to set the direction for meeting the 2050 climate-neutrality objective through all policies, meaning all sectors from energy to agriculture will have to reform in a socially-fair and cost-efficient manner. Through the law, the Commission can monitor, adjust, adopt policies, ensure funds etc where needed in order for the 2030/2050 targets to be reached and to be irreversible. More info on the European Climate Law: https://ec.europa.eu/clima/policies/eu-climate-action/law_en

Union will negotiate on the changes needed to EU climate and energy laws for 2030 and beyond.²⁵

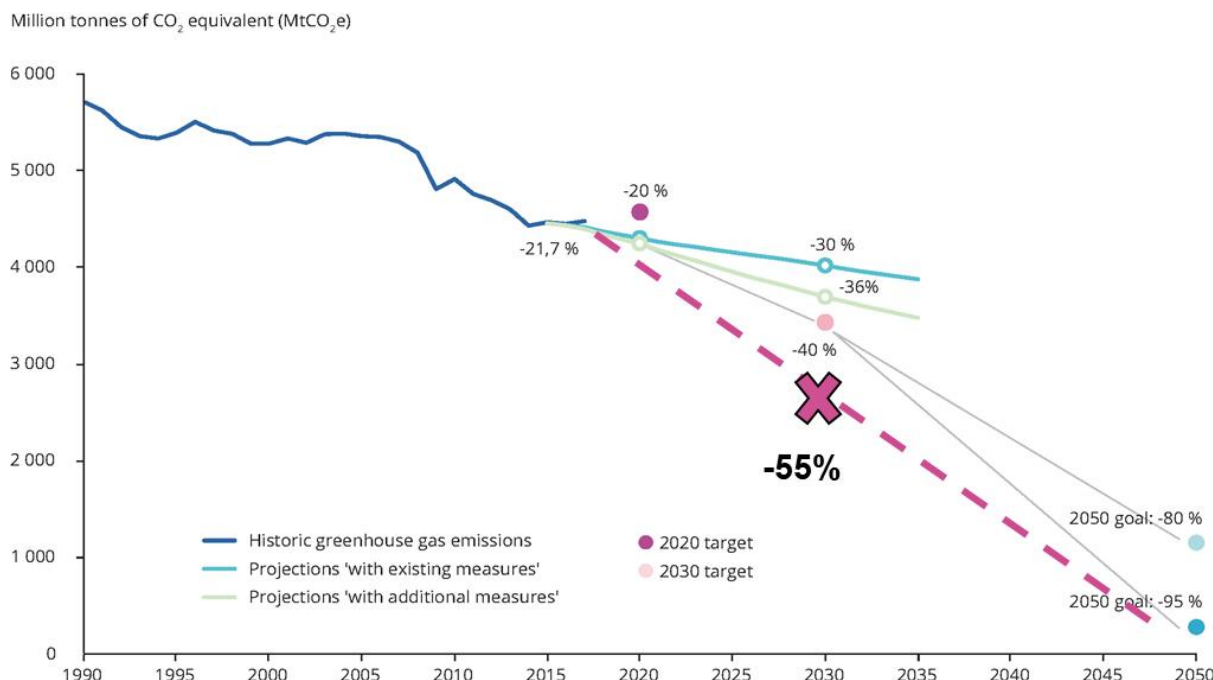


Figure 17: Greenhouse gas emissions in the EU and the agreed targets, (Source: EEA)

Coming back to the importance of the European Green Deal in relation to the Western Balkans, the Deal represents unique opportunity to transform the continent and prepare its economies for a sustainable future while mitigating climate change devastating effects. This cannot be achieved if the WB-6 countries are out of this process. Hence why the Green Agenda for the Western Balkans was launched.²⁶

Announced in early 2020, it should be adopted by the end of 2020, and the idea is to commit to the EUGD credo which is that the ecological transition for Europe can only be fully effective if the EU's immediate neighbourhood also takes effective action. In that regard before the final adoption of the Green Agenda, DG NEAR together with a generous financial framework (discussed below) in October 2020 presented the guidelines for implementing the Green Agenda for the Western Balkans, which envisage actions around five pillars, also covered by the European Green Deal:

1. Climate action, including decarbonisation, energy, and mobility;
2. Circular economy, addressing in particular waste, recycling, sustainable production, and efficient use of resources;
3. Biodiversity, aiming to protect and restore the natural wealth of the region;
4. Fighting air, water, and soil pollution and
5. Sustainable food systems and rural areas.²⁷

²⁵ Agora Energiewende, internal documents.

²⁶ The Green Agenda for the Western Balkans is expected to be approved by the relevant authorities at a Summit in Sofia, Bulgaria in November 2020.

²⁷ More info on Balkan Green Energy News <https://balkangreenenergynews.com/eu-presents-guidelines-on-green-agenda-for-western-balkans/>

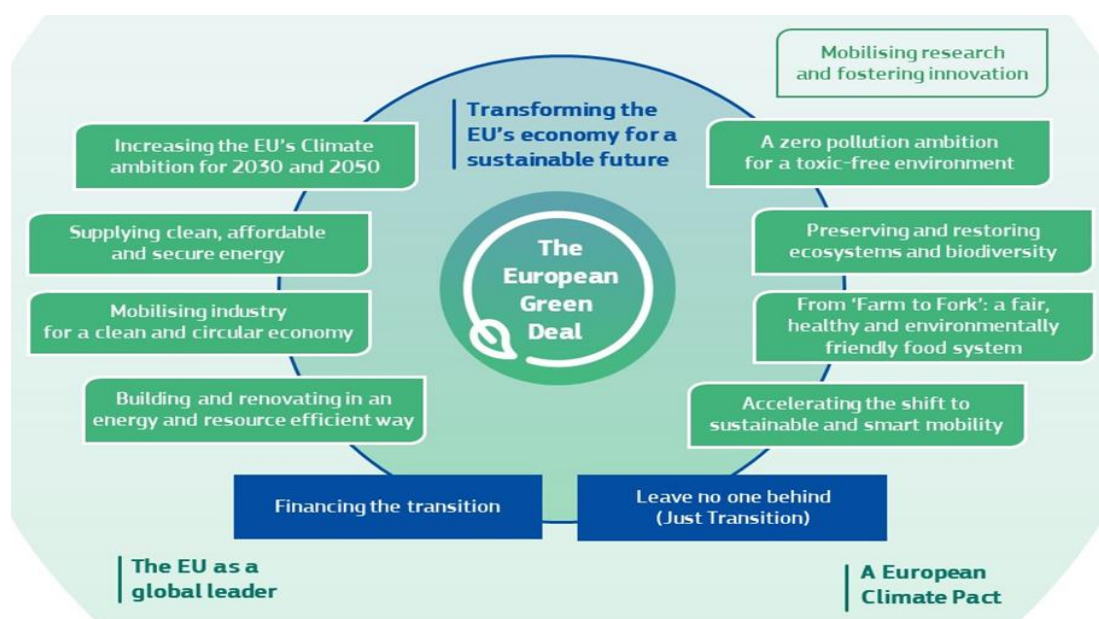


Figure 18: The European Green Deal (Source: European Commission)

Without however legally binding commitments including RES and EE targets, and inclusion of the WB-6 in the EU-ETS (or some regional version of it) it is unlikely that the countries will voluntarily follow higher climate ambition. Moreover, the EU integration would mostly probably be the key instrument for the EU-Western Balkans convergence in this area as the countries outside, in economic and development terms, perform worse than their EU neighbours.

Access to funds is one of the most important prerequisites for enabling decarbonization in the region. This is clear from Figure 19 where it is shown that in the last two decades, the economic convergence with Germany was the worst in the WB-6 compared to the whole CEE. This happened even though in 2000, most of the Western Balkan countries were much poorer than even Bulgaria and Romania, and having the assumption all else is being equal, poor countries tend to grow faster than rich ones.²⁸ The graph illustrates how important for CEE was the EU accession and the access to funds such as the Cohesion Fund and that regional cooperation and economic exchange although welcomed cannot substitute the benefits from being part of the EU family.

Hence not only a clear path towards the EU will be needed but also increased financial support for the necessary societal transformations, starting with the most polluting sectors such as energy and transport. This would then need to be coupled with potential consequences if the countries are falling behind and not implementing the necessary reforms either through the negotiation process or through other bodies such as the Energy Community of South-East Europe.

²⁸ Bertelsmann Stiftung, the Vienna Institute for International Economic Studies, Pushing on a string An evaluation of regional economic cooperation in the Western Balkans https://www.bertelsmann-stiftung.de/fileadmin/files/user_upload/Pushing_on_a_string.pdf

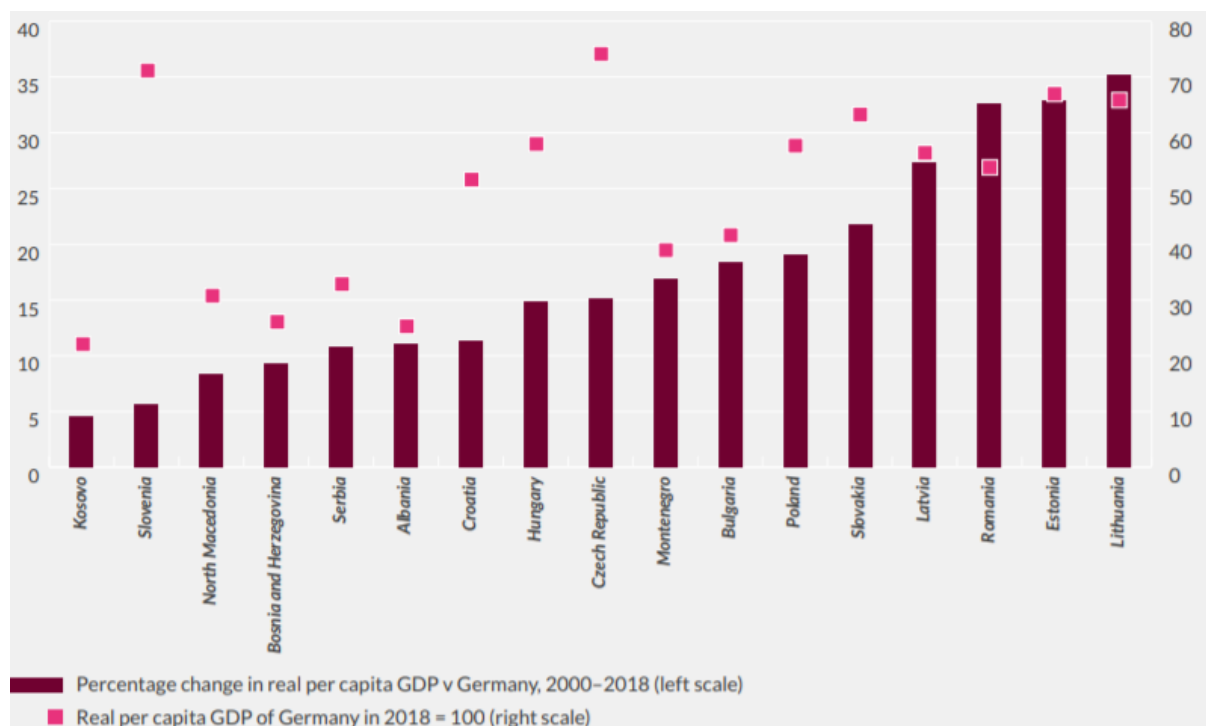


Figure 19: Convergence performance versus Germany, 2000–2018, (Source: EUROSTAT, WIIW)

Covid-19 and financing the recovery should also be coupled with any transition away from fossil-fuels as there is simply not enough time to work first on the post-pandemic recovery and then wait for any clean transition. The EUGD in that matter is planned to be used as an economic lifeline out of the coronavirus crisis²⁹.

The same approach should be intended for the WB-6 countries since, as stated even before the pandemic, these countries needed support for reforming and decarbonizing their economy. In the planned assistance for the 2021-2027 periods, the EU should prioritize clean energy transition objectives in order to avoid further carbon lock-in in its immediate neighbourhood and risks pushing the region away from a joint European future. This would in reverse negatively affect the EU's own decarbonization goals.³⁰

7.2. EU Funds for the Western Balkans

As said, the plans for both economic convergence and recovery assistance for the WB-6 cannot be implemented in a region which is well below 50% in terms of GDP development compared to the EU average. Hence it was announced that several budget lines and facilities which should assist the post-pandemic recovery, the pre-accession adjustments and the economic convergence with the EU would be made operational. **Error! Reference source not found.** deals with the most important major blocks of financial assistance that should

²⁹ The EUGD implementation will be financed by two major instruments. The MFF, long-term budget of the EU for 2021-2027 (€ 1 100 billion) and the new NextGeneration EU which is the post-pandemic recovery instrument of €750 billion adopted to boost the EU budget with new financing raised on the financial markets for 2021-2024. Supporting the green transition to a climate-neutral economy via funds from Next Generation EU should be achieved by assuring that the proposed climate share in the NextGen EU of 30% is enforced by all 27 MS. The same climate share of 30% goes for the MFF.

³⁰ Agora Energiewende, Post-corona economic assistance in the Western Balkans: boosting the economy and the energy transition, May 2020.

flow to the WB-6: **IPA III, Post-pandemic recovery and the Economic and Investment plan for the Western Balkans.** Without going into too many details on each programme and plan for a) post-pandemic recovery b) economic convergence with the EU; it is important to know that compared to the previous period the funds intended for the entire region are quite higher for the next 6 years. This is a crucial time to bring the Western Balkans closer to the EU but also to finally set the stage for decarbonisation of its economy.

Just as an example, after the pandemic hit, the EU pledged significant emergency assistance as well as help for the economy in the region to recover. Both are amounting to 3,3 billion EUR and made available from the previous EU budget and the European Investment Bank (EIB). Key pillars comprised 389 million EUR to address social and economic recovery needs, 455 million EUR for economic reactivation and a proposal for a 750 million EUR macro financial assistance and a 1,7 billion EUR assistance package of assistance from the European Investment Bank. To make it even more tangible, in the case of Albania for post-pandemic immediate and mid-term support, the division was as follows:

- a) IPA 2014-2020, €50,65 million in bilateral assistance for Albania to cover urgent health needs and economic and social recovery;
- b) And €180 million was approved by the Commission in Macro Financial Assistance.³¹

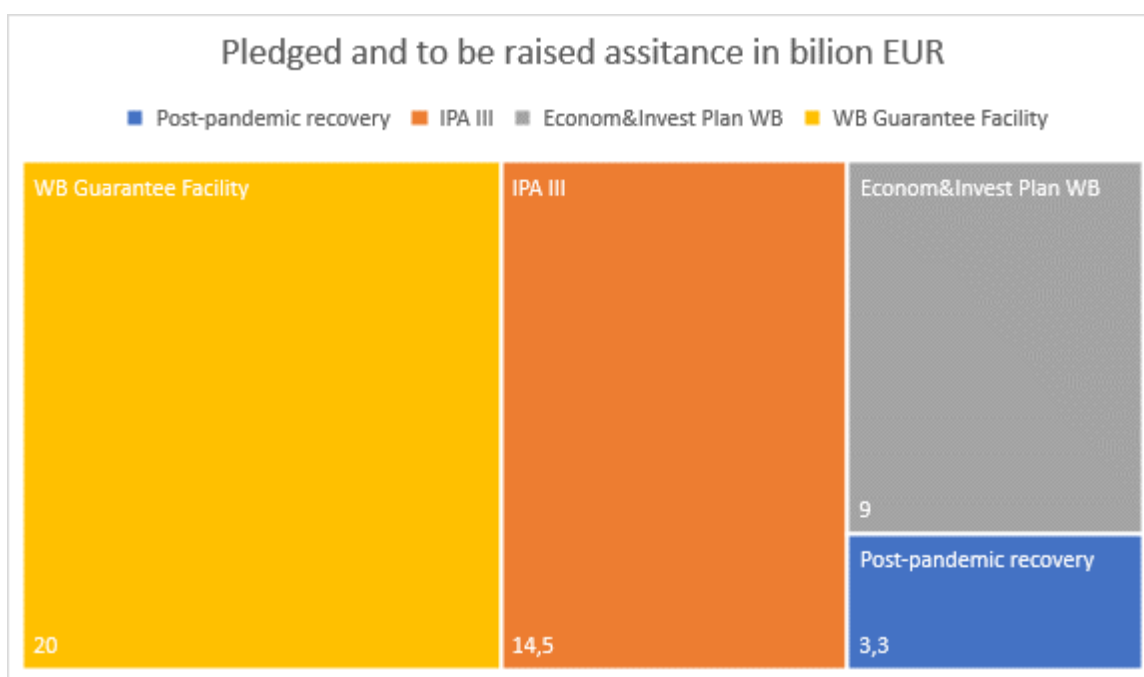


Figure 20: Foreseen EU assistance to the WB-6 countries, (Source: European Commission)

Then in autumn 2020 EC/DG NEAR announced the plan for supporting the longer-term socio-economic recovery in the region and the economic convergence with the EU. The sum is quite larger amounting to total 9 billion EUR under the IPA III Programme. In addition, the

³¹ Albania Factograph, https://ec.europa.eu/neighbourhood-enlargement/sites/near/files/near_factograph_albania.pdf

investment capacity of the region should be boosted by the mobilization of a new Western Balkans Guarantee facility³², with the ambition to potentially raise investments of up to €20 billion.³³ This plan as mentioned, is accompanied by the Green Agenda for the Western Balkans. The investment package is structured around the following key areas:

1. (Sustainable) transport and infrastructure;
2. Clean energy;
3. Environment;
4. Digital future;
5. Private sector and human capital, with a strong focus on youth.

The operational programmes within the Economic and Investment Plan will follow most probably after the official adoption of the Green Agenda in November. This means that the EC is sending a strong and clear signal that from now on any assistance to the WB-6, including Albania which is to start the negotiations, will be tied to its own decarbonisation plans. Even-though the funds are not necessarily on par to the main EU Budget or the Cohesion Fund (372 billion EUR or 30% of the total budget for 2021-2027) they are nevertheless substantial and should assist the Western Balkans in planning its future away from fossil fuels. The success of the convergence plan depends on the willingness of WB-6 countries as well as on the resoluteness on the European Union to support the region towards its EU future and towards joint decarbonisation.

³² To be established, as currently this does not exist.

³³ EC, https://ec.europa.eu/commission/commissioners/2019-2024/varhelyi/announcements/remarks-commissioner-oliver-varhelyi-european-parliament-afet-committee-presentation-economic-and_en

8. Examples of good practice in EU and the region

CASE STUDY (1):

DRIN Fojnica (Bosnia and Herzegovina)

Fojnica is a small city (12.400 inhabitants in 2013) in central Bosnia and Herzegovina known for its numerous archeological findings, historical monuments and natural resources (especially for biomass, geothermal and hydro energy). Most of local people are active in agriculture, tourism and wood industry.



DRIN is acronym for Institute for the care of mentally disabled persons in Fojnica. The Institute was established in 1955. It represents a center for social and health care, extended treatment and rehabilitation, training for the independent life of people with developmental disorders and persons with mental health problems. What makes DRIN unique is that it is the only institution of this type in Bosnia and Herzegovina that cares for the newborns. DRIN is home for almost 500 people with mental disability and workplace for almost 250 employees. Treatments and rehabilitations are just part of daily routine in the DRIN. DRIN is actually a big family that faces everyday life challenges, as well as many other problems. One of the problems is certainly big electricity bills (over 125.000 EUR a year). A part of these costs are due to huge consumption of hot water.

The idea to invest money for solar hot water collectors that were installed on the roof of DRIN was created by REIC. Solar energy, unlike fossil fuels, is available to an unlimited extent and does not produce harmful emissions. By installing solar collectors, it is possible to save up to 60% of costs related to the preparation of hot water, which will also have a positive effect on the environment. In October 2018 REIC launched the first crowdfunding renewable energy campaign in the history of Bosnia and Herzegovina. This was also the first step towards an energy transition in a local community in Bosnia and Herzegovina.

This was the first ever citizen energy initiative in Bosnia and Herzegovina, which managed to raise funds in the amount of approx. 25.000 EUR . The solar power plant on the roof of the DRIN was put into operation in December 2019, when the first plant for renewable energy sources (financed within the citizen energy initiative) finally started operating.

In general, REIC was the first organization in Bosnia and Herzegovina to address the issue of involving citizens in the field of energy, through a concept called „citizen energy“. From the start of this initiative REIC promoted energy cooperatives as a way to involve citizens in the energy sector.

CASE STUDY (2):

Križevački sunčani krovovi (Croatia)

Križevci is a small town in the northern part of Croatia with 21.700 inhabitants. The town is an important railway center, known for its wine and vineyards. Križevci has a long history of the wood industry.

The first solar power plant in Croatia financed entirely by citizens was installed in 2018. This PV power plant "Križevački sunčani krovovi" is located on the roof rooftop of the municipality's Development Center and Technology Park's administrative building with direct consumption on site. The initiative was the joint project led by the City of Križevci and ZEZ (Green Energy Cooperative), one of the first energy cooperatives in Croatia. ZEZ and the City of Križevci led the campaign for citizen energy during 2018. They had three presentations in 20 days. At the first public presentation of the campaign, they had only 7 participants. But there were 70 participants at the last one. The financing of the power plant started with a fundraising campaign, which included 53 investors with an average investment of 500 EUR. The campaign managed to collect the total amount of money needed in only 10 days.

Since the interest was huge, the PV power plant (30kW) was installed immediately. It was financed entirely by citizens of Križevci and all other people who wanted to invest. The project will save around 55 tons of CO₂ each year, since the production is planned for around 50.000 kWh per year. With the new solar system, the City Library will be able to save money and secure the return on investment for the citizens-investors. The City of Križevci grants a 10- year energy saving annual fee to the citizens.

This was the first project of group investment according to the model of micro loans in Croatia. The City of Križevci provided administrative and financial support in the preparation phase. It also grants a 10- year energy saving annual fee to the citizens. The power plant itself costs 30,000 EUR and the City of Križevac was able to finance the installation itself. But that was not the purpose. They wanted to animate and encourage their citizens to participate in projects related to energy transition. And they succeeded for sure.



CASE STUDY (3):

Energy Cooperative “Cooperative of solar power plants of Slovenia - ZSES” (Slovenia)

Slovenia is one of the first countries in SEE that is moving (step by step) toward an energy transition based on renewable energy. This country has well prepared institutional policy programmes. Cooperative of solar power plants will be used as an example that could be copied and implemented also in other countries.

Ptuj is the oldest city in Slovenia. It is located in the northeastern part of the country on the river Drava and has 18.000 inhabitants. The energy transition in Slovenia started in 2014 when the cooperative was founded. The Energy Cooperative ZSES in Ptuj was established by the owners of 13 solar power plants at the founding general assembly. Until 2020, the Energy Cooperative gathered 169 solar photovoltaic power plants from all over Slovenia.

The institutional part of the energy transition is very clear in Slovenia. Each power plant represents one member of the Cooperative. All members (whether natural or legal) have the same status. The Energy Cooperative sells energy from the grid on the stock exchange and generates revenue of EUR 100.000 per year. Solar panels (total installed capacity 9 MW as of 2018) are installed on the roofs of kindergartens, schools, production halls and residential buildings. After 7-8 years, the power plants become the property of the facilities on which the roofs the plants are installed. The Energy Cooperative install solar power plants according to the Net metering principle - these are solar power plants for self-sufficiency (1), solar power plants for own use which operate according to the PX3 scheme (2), and solar power plants which are intended exclusively for the sale of electricity (3).

The Energy Cooperative has a variety of activities: design of solar power plants, production and sale of electricity, service and cleaning of power plants, electricity metering/lending, and brokerage on the stock exchange. The novelty of the Energy Cooperative is a crowdfunding campaign (mass financing of solar power plants) through which the solar panels will be installed on the rooftops of kindergartens, schools, larger office buildings and everywhere else where interest will be shown.



CASE STUDY (4): Güssing Renewable Energy (Austria)

Güssing is small border town in eastern part of Austria, just a few kilometres away from the Hungarian surrounding hills. After the First World War, this was one of the least developed parts of the country. There was a very high level of unemployment and emigration due to underdeveloped agriculture, industry and poor transport infrastructure. Due to a lack of connections to the railway and traffic network, energy costs were extremely high. But there was a large forest resource.

The town was surrounded by 25 km² of forest. Some local residents, realizing that wood in the forest was not being used, started to run a district heating station for several households. The number of similar small district heating systems has increased over time. The surrounding 18 municipalities were also connected to this heating system. In 1996, the heating system was expanded to the whole Güssing. The local authorities and people decided to organize themselves in an energy cooperative and produce their own energy. This year (1996) was the start of energy transition in Güssing, which become a model community for renewable energy and a strategy of decentralized local energy production with available RES in the area.

Güssing built a research institute focusing on thermal and biological gasification and production of second-generation fuels in 2008. That same year a solar manufacturer started producing PV modules in Güssing, producing 850 MW of modules a year while employing 140 people. The cooperative also installed a PV solar power plant on the roof of the first district heating facility (built in 1996) in 2012. The town currently has 60 new companies (1.500 new jobs) and annual revenues of 14 million EUR due to energy sales and growth of the renewable energy sector.



The cooperative has been producing "clean" energy from sunlight since 1996, wood chips and agricultural waste. It produces a large amount of energy per day that nature cannot absorb in 500,000 days. The small border town has become a net energy producer—generating more energy from renewables than it uses. Altogether, there are more than 30 power plants using renewable energy technologies within 10 km of the town. Güssing is also the first community in the European Union to cut carbon emissions by more than 90%. And other areas are following Güssing model. More than 15 regions in Austria become energy independent (in electricity, heating, and/or transport sector) in last ten years.

CASE STUDY (5): SEV - SÜDTIROLER ENERGIEVERBAND (Italy)

South Tyrol is the northernmost province of Italy since is located on the border with Austria and Switzerland. The province has a total population of 531.000 inhabitants (2019.) and the capital is Bolzano. This province is known for its rich history, numerous castles and churches built by Habsburg rulers, Alps peaks above 3.000 m, picturesque valleys, snowy winters and plenty of mountain streams.



The province is entirely located in the Alps mountain system, whose streams and forests have been an important resource for decades for the production of renewable energy and sustainably produced heat. The use of renewable energy began at the end of the 19th century with the installation of the first power plant (1897). Over a period of 100 years, ownership of renewable energy (RES) facilities has changed from energy companies, through state-owned concessions to their own energy provider. The energy transition in this part of Italy started in 1998 when the province established its own energy provider and became one of the key players at the South Tyrol electricity market. Local people, medium-sized enterprises and cooperatives of South Tyrol realized that as homeowner they can produce electricity, keep environment clean and become an active market player in the energy sector. All hydroelectric power stations in South Tyrol are currently under “local” ownership.

Ownership in amount the of 54,45% belongs to the Province of South Tyrol with 21% belonging to the cities in the province (Bolzano and Merano), while 3,55% belongs to the cooperative of South Tyrolean cities. SEV energy cooperative currently has 304 members, including 120 hydropower plants, 45 heating plants and 149 photovoltaic installations (Yearly heat production: 890.000.000 kWh). Energy cooperatives work on the production cost principle. The members are the owners – profits are passed on through cheaper prices to the final consumer. This is also a reason that 20 of the 56 distributors active in South Tyrol are organised as cooperatives. 18% of local power plants with a rated capacity of between 220 kW and 3 megawatts are run by cooperatives. The vision of the SEV cooperative is to develop South Tyrol as a “climate region” (both on behalf of its members and of local consumers).

149 PHOTOVOLTAIC
INSTALLATIONS



304 MEMBERS



120 HYDROPOWER
PLANTS



45 DISTRICT HEATING
PLANTS



 HEINRICH BÖLL STIFTUNG
SARAJEVO
Bosnia and Herzegovina | Albania |
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