Challenges for Energy Security in Albania and the Region in the context of current geopolitical developments and climate change

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Main Pillars of Albania's Energy Policy

National Energy strategy for the period 2018 -2030"
(Approved by the Albanian Council of Ministers Decision - DCM no. 480, dated 31.07.2018)

-. **Enhanced energy supply security.**

-. **Function as a regional energy center contributing on the development of a safe and secure energy network in the South East Europe –**

-. **Gasification** to diversify and to increase energy security of supply

-. **TAP project contribution** as a part of Southern Gas Corridor

-. **High voltage power network interconnection** with neighbor countries,

-. **Increasing role and contribution of coastal oil terminals** for the supply of country and neighbor countries with oil byproducts.

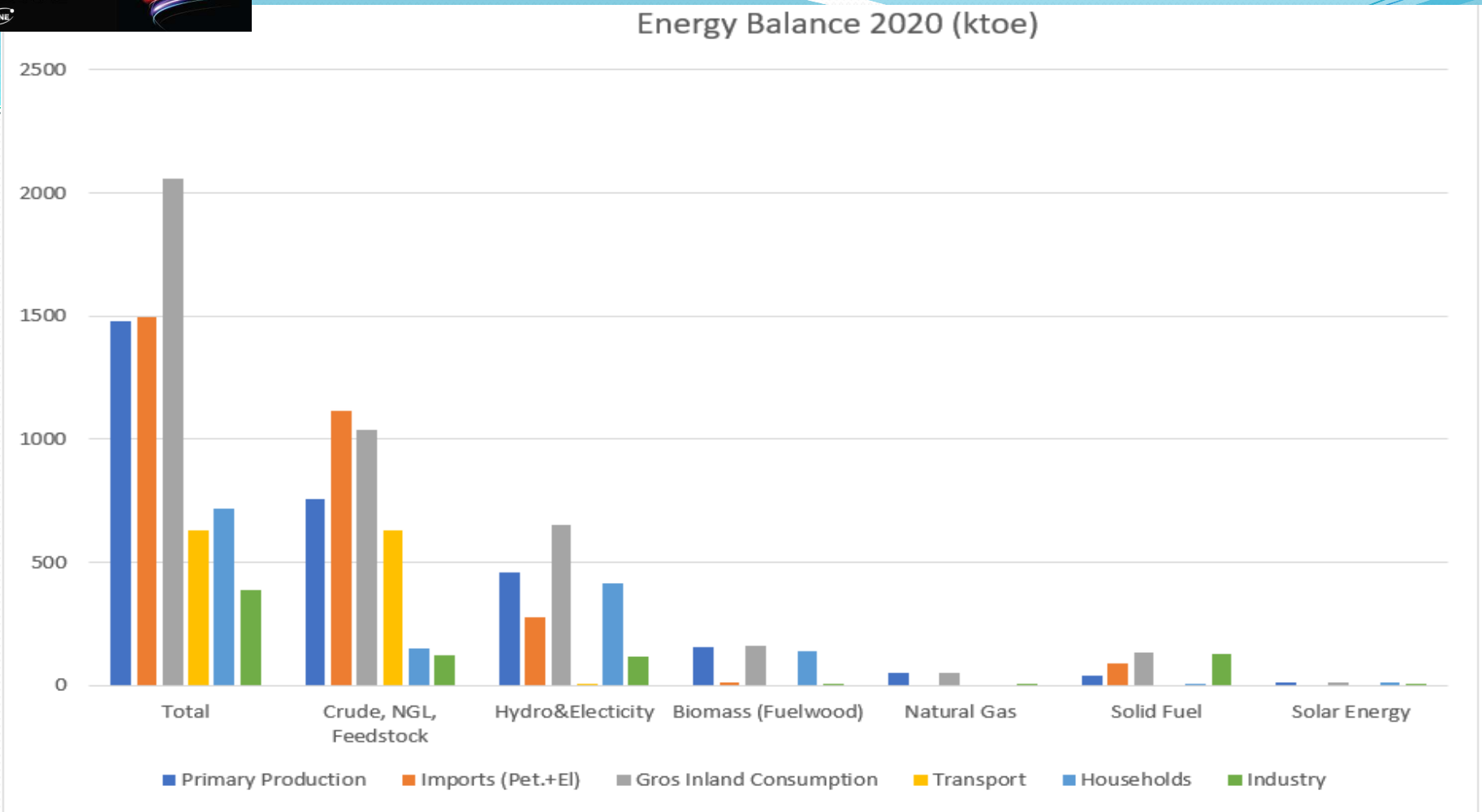
Security of Energy Supply and Diversification of Energy Sources

According to the "Energy Balance for 2020" prepared by the National Agency of Natural Resources (AKBN),

- **-. Primary production of energy resources, was 1480.35ktoe**
- **-. Imports, 1497.85 ktoe, or about 73% of the total consumption,**
- **-. Exports (crude oil and Electricity), 822.12.ktoe**
- **-. oil products, up about 74% of the total energy import**
- **-. the gross consumption of energy was 2055.38 ktoe,**

Petroleum energy products constitute the main source of energy for 2020, accounting **for about 51% of the total consumption**.
Electricity ranks as the second most important source of energy in the country (**about 32% of total energy consumption**) after oil and its by-products.

The transport sector in Albania has a high weight in the consumption of energy materials **to the extent of 42%.**
The households sector ranks second in the amount of final energy consumption in Albania, after transport **with a specific weight of 29%. This sector consumes 55% of the national electricity consumption.**

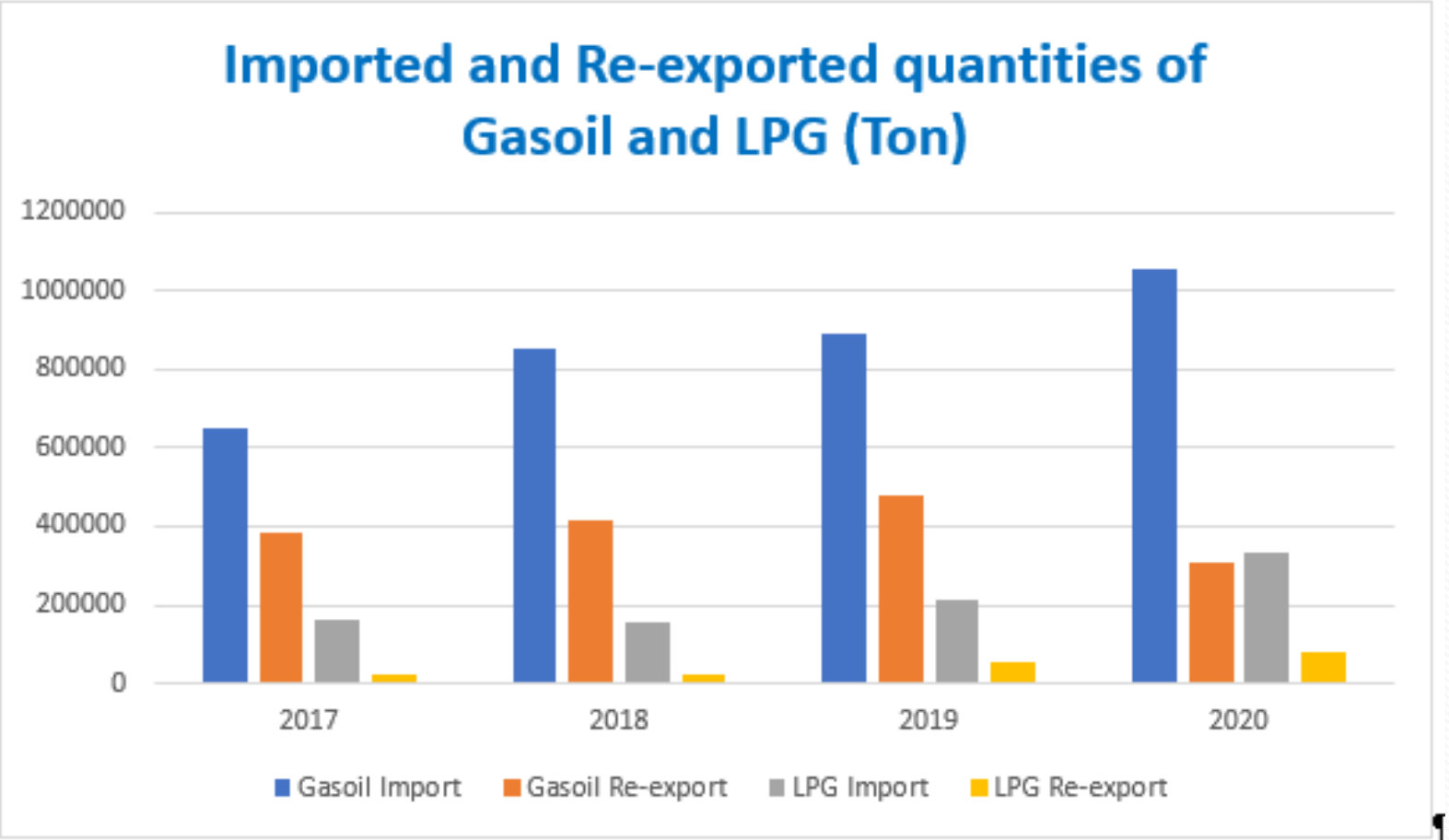


	Primary Production	Imports (Pet.+El)	Gros Inland Consumption	Transport	Households	Industry
Total	1480.35	1497.85	2055.38	627.41	717.83	387.89
Crude, NGL, Feedstock	758.17	1113.55	1040.42	627.04	148.15	120.19
Hydro&Electicity	456.93	278.52	652.63	0.37	413.52	117.36
Biomass (Fuelwood)	153	13.78	160		140.1	7.5
Natural Gas	49.2		49.2			7.2
Solid Fuel	42.06	92.08	134.14		3.7	130.44

Security of Energy Supply and Diversification of Energy Sources

The import of oil by-products for 2020 reaches the value of 1.486.744 ktoe, meanwhile for 2021 the amounts of imports were around these levels.

Gasoil, gasoline and liquefied petroleum gas (LPG) continue to dominate the import of petroleum products, but also **the re-export of a significant amount of these by-products.**

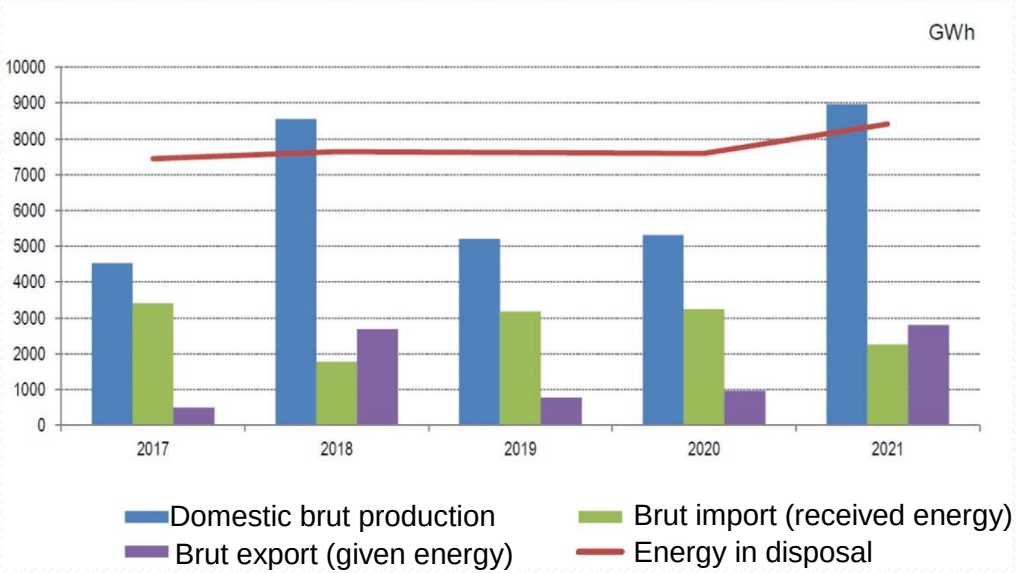


Security of Energy Supply and Diversification of Energy Sources

Albania is undoubtedly a country that produces 100% renewable energy, but Albania is a country that fails to produce all the electricity needed for the market.

In the best hydric years and taking into consideration the seasonality of rainfall, **we produce only 75% of this need,** while in dry years like 2022 that we are already passing and which is the third consecutive year without rain, of course Albania is producing in minimal way from the Drin cascade. For this reason, we had to turn to imports, **but these imports, as everyone already knows, have unaffordable prices for all countries** at this time and of course for citizens.

As it can be seen in the graphic **the electricity generated in 2021 was 8,963 GWh** , the highest **electricity consumption in 2021 was 8,414 GWh (**is the one recorded with 8,414,836 MWh), **where the imports have been around 2 TWh and exports around 3 TWh.**



Available energy, net domestic production, gross import and export
INSTAT, Tirana, on 3 March 2022

Security of Energy Supply and Diversification of Energy Sources

The figures presented above for both the electricity and oil and gas sectors illustrate the following characteristics of the Albanian energy sectors:

- High dependence on the import of petroleum by-products, as well as import of electricity;

- The importance of hydropower in the country's energy balance;

- Most of the energy consumption from the transport sector;

-. Minimum supply of natural gas as domestic production

-. Lack of diversification of energy sources in the market supply, especially for electricity generation

Security of Energy Supply and Diversification of Energy Sources

Climate change has significantly affected Albania. **Sea level rise** has led to the disappearance of several meters of coastal land over the past 10-20 years. Also, fires have become more numerous due to high temperatures in summer.

-. **The average amount of precipitation has been decreasing,** but it has been followed by an increase in floods, precipitation falls in a short time and in large amounts.

-. **Agriculture is expected to be affected catastrophically** as a result of several months of droughts that will affect Albania in the coming years.

-. **This year (2022), October in Europe broke the record for the hottest temperatures** ever recorded, **reaching almost two degrees Celsius above the comparison period 1991-2020**.

For a general illustration, it is enough to quote a data from **the "Progress Report 2016, of the Cooperation Program of Albania with the United Nations",** where in **Issue 4.4 "Climate Changes",** in the first paragraph of this issue (page 56) , it is stated that:

"Albania is one of the most vulnerable countries in the region to climate change and it is estimated that summer rainfall will decrease by about ten percent by 2020 and 20 percent by 2050. Energy production and agriculture will be profoundly affected, with an estimated loss of 60 percent of energy production capacity."

(Reference: Government of Albania and United Nations, Program of Cooperation 2012–2016, Progress report 2016, p. 56)

Security of Energy Supply and Diversification of Energy Sources

Agreement with Exxon Mobile and Excelerate Energy

On March 12, 2021, Albania and the USA signed **a cooperation agreement through the Ministry of Infrastructure and Energy and "Exxon Mobil" and "Excelerate Energy",** for the supply of liquefied natural gas (LNG) from America in Albania.

This project includes the **conversion of the Vlora TPP with LNG**, the **construction of a new gasification terminal** and the distribution of LNG, turning Vlora into a regional HUB for liquefied gas.

The Vlora terminal is expected to serve as a strategic investment not only for Albania, but it shall also serve for **gas supply to the neighboring countries such as Montenegro, North Macedonia, Kosovo, etc.**

Fier-Vlore-Fier Transmission Line (Excelerate Energy – Snam – Albgaz Agreement).

Excelerate Energy LLC, Snam SPA and Albgaz SA company have **signed a Memorandum of Understanding (MOU) on July 15, 2021,** in Tirana, which is very important for the Albanian gas market.

The agreement is signed, TAP will build the first gas exit point in Fier

On July 6, 2021, the Ministry of Infrastructure and Energy, Albgaz Sh.a. and the Trans Adriatic Pipeline (TAP AG), signed a Cooperation and Delivery Agreement for the Southern Section Facility in Fier. The new gas exit point in Fier will provide a strategic entry point, for Albania and the Western Balkans, into the gas reserves in the Caspian region.

Security of Energy Supply and Diversification of Energy Sources

Projects of Photovoltaic Parks and Wind Farms

On 31.07.2022, the agreement between the Albanian Government and the French company Voltalia was signed, paving the way for the start of works for **the construction of the Karavasta Photovoltaic Park**. **It will have an installed capacity of 140 MW,** The company Voltalia was declared the winner offering the record price of 24.89 EUR/MWh.

On 25.03.2021, the auction for the construction of the Spitalla photovoltaic park is finalized, a park **with a capacity of 100 Megawatts**, The park will be built on an area of 120 hectares. The French company Voltalia has won the competition to build the Spitalla photovoltaic park, with a bid of 29.89 EUR/MWh.

In July 2022, the auction for the wind farms was organized, which was organized with the assistance of the EBRD, with specialists who helped in the whole process, but also with a support from the Swiss SECO. These wind farms will be the first farms in Albania of a significant amount, from 10 megawatts to 75 MWh. **The total amount of these parks is between 100 and 150 MWh.**

On September 5, 2022, the Albanian Government announced that all families who will install solar panels for water heating, the state will cover 70% of the cost .The goal is to reach 10,000 generating units by March 31, 2023.

In view of the main objective of increasing energy security, these projects are Albania's best opportunity for diversifying energy production sources.

Security of Energy Supply and Diversification of Energy Sources

The two floating thermal power plants, New Explorations, two Coastal Oil Terminals

The Ministry of Infrastructure and Energy with the support of the USA has signed an Agreement with a 2-year term for the rental of two floating thermal power plants, which will provide **114 MWh.** This amount of energy is important for an energy balance in crisis conditions when the current electricity exchange market has suffered a severe blow due to the war in Ukraine, where prices have reached staggering figures.

During the last 3 decades the petroleum explorations are being carried out in compliance with the provisions of law no. 7746, dated 28.07.1993, "Petroleum law (Exploration and Production)", as amended.

The company SHELL Upstream Albania has discovered a new oil and gas field in the structure of Shpiragur, in Blocks 2 and 3 and is currently in the evaluation phase of this discovery.

A very important development in the diversification of energy supply sources was **the construction and putting in operation of two Coastal Oil Terminals,** which, in addition **to increasing the security of the country's energy supply, also influenced the improvement of the supply of hydrocarbon products of neighboring countries,** meanwhile, **has re-dimensioned the geo-economic and geo-political role of Albania in the region and beyond.**

Interconnection of the Albanian energy sector with the Regional and European energy networks

Geographical position of Albania.

The Republic of Albania is bordered on the North by Montenegro, on the North-East by Kosovo, on the East by Northern Macedonia and on the South by Greece. At the natural western border Albania has open access to the Adriatic Sea and to the South-West to the Ionian Sea. **The total length of the border line is 1094 km, of which 657 km - onshore border, 316 km - offshore border, 48 km - river border and 73 km - lake border.**

- Power Interconnection line 400 kV Zemblak (Albania) – Kardia **(Greece)**
- line 400 kV Tirana (Albania) – Podgorica **(Montenegro);** line 400 kV Tirana (Albania) – Prishtina **(Kosova)**
- line 220 kV Fierza (Albania) – Prizren **(Kosova);** line 220 kV Koplik (Albania) – Podgorica **(Montenegro);** line 150 kV Bistrica (Albania) – Myrtos **(Greece).**

The construction of the interconnection 400 kV line, Elbasan 2 (Albania) – Bitola (North Macedonia) and Elbasan 2 – Fier

-Main regional gas projects in the Western Balkan passing through Albania:

-. TAP Project- connection with Greek and Italian gas networks,

-. IAP Project – connection with Croatian and Central European gas networks

-. ALKOGAP Project – connection with Serbian and North Macedonian gas networks.

-. UGS Dumrea project is to support and increase the flexibility of the existing and planned gas transmission system of Albania and other regional countries.

Interconnection of the Albanian energy sector with the Regional and European energy networks

Albania, a possible route for the Caucasian and East Mediterranean gas to Europe

The impact of the "Wide Southern Gas Corridor" on the Europe gas security of supply architecture.

- **The historical evolution of the Southern Gas Corridor to an "Wide" one,** clearly exemplifies how the original idea of a multilateral and large-scale project based on a variety of gas supply sources, turned out to be a multilateral and medium-scale project with more than one supply sources, Caspian, Meddle East and East Mediterranean regions.

- **In this framework, part of the gas arriving from TAP and IAP, as well, (part of "Wide" Southern Gas Corridor) could well be evacuated also to Central and North-West European markets, notably Austria, Germany, Switzerland, France and the United Kingdom (UK).**

- **This eventuality is reinforced by the fact that the TAP design (together with IAP Project) offers various connection options to a number of existing and proposed pipelines along its route**. This would enable the possible delivery of Caspian, Meddle East and East Mediterranean gas to those destination.

Instead of Conclusions

Regional cooperation on the framework of geopolitical development

The Energy Forum of the countries of South-East Europe gathered in Thessaloniki on 10.09.2022 the Ministers of Energy of the countries of the region, as well as the ambassadors of the United States of America in the Balkans. **Diversification of energy sources is one of the main initiatives to respond to the situation**

Western Balkan Summit, in Berlin on 3 November 2022 (the Summit Meeting of the Berlin Process). Energy Security/Transition, Green Agenda and Climate. They agreed that Europe needs to rethink its energy supply and energy security.

In the meeting with the President of Azerbaijan, Mr. Ilham Aliev on 15.11.2022, it was discussed about joint projects in the field of energy, which will end Albania **since the start of the gasification program with investment of Azerbaijan, which will start with a municipality that will be determined in one of the contact points with TAP- until the setting of concrete milestones for the construction of an ultra-modern refinery,** s great dependence on imported oil.

Greece and Bulgaria on 01.10.2022 launched the common gas interconnector (IGB Project), which was described as a project that will change the energy map of Europe, **The pipeline can provide gas to Bulgaria, Serbia, North Macedonia, Romania and further, Moldova and Ukraine.**

Instead of Conclusions

Regional cooperation on the framework of geopolitical development

Cooperation between the Ministry of Infrastructure and Energy of Albania and the Ministry of Energy and Environment of Greece.

On 13.05.2022, a meeting took place in Tirana between the Minister of Infrastructure and Energy of Albania, Mrs. Belinda Balluku and the Minister of Energy and Environment of Greece, Mr. Kostas Skrekas,

One of the most important issues that was discussed was **the new electric interconnection line between the two countries, It is intended that within 2030 the new transmission line between Albania and Greece will be operational**

Discussions have also been held about the decision of both countries to invest in gasification in the next 10 years, given that both countries, both Greece with the LNG terminal of Alexandropol, and Albania with the LNG terminal of Vlora create concrete opportunities. **Experience was discussed and exchanged regarding all the plans that Albania has for gas distribution** or even the construction of the new gas line of the Ionain-Adriatic line (IAP Project)

It was discussed about all the developments that the TAP consortium will have in the future, the investment opportunities in this project or even the gas pipeline capacities that the Republic of Albania will need in the future.

THANK YOU!

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