



CURRENT ENERGY CRISIS, CHALLENGES AND POTENTIAL SOLUTIONS FOR THE ALBANIAN POWER SECTOR

Dr. SHKËLQIM BOZGO
PhD. ENTELA SHEHAJ (FICO), Dr. Abaz Aliko
SEA Consulting



Content;

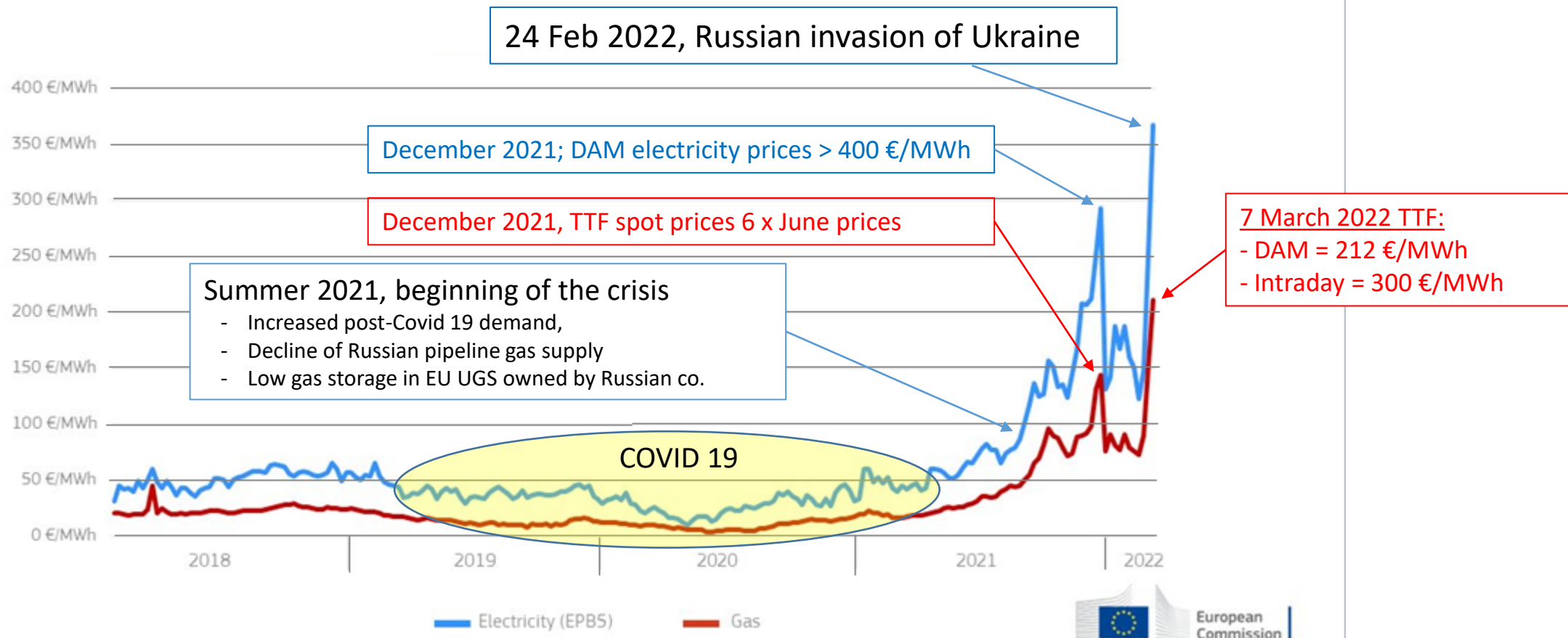
1. The latest energy crisis and its impact on Albanian power sector
2. Key traits of the Albanian power sector
3. Main Challenges
4. Looking into the future

1. The latest energy crisis and its impact on Albanian power sector

Energy crisis in Europe

Electricity price / gas price

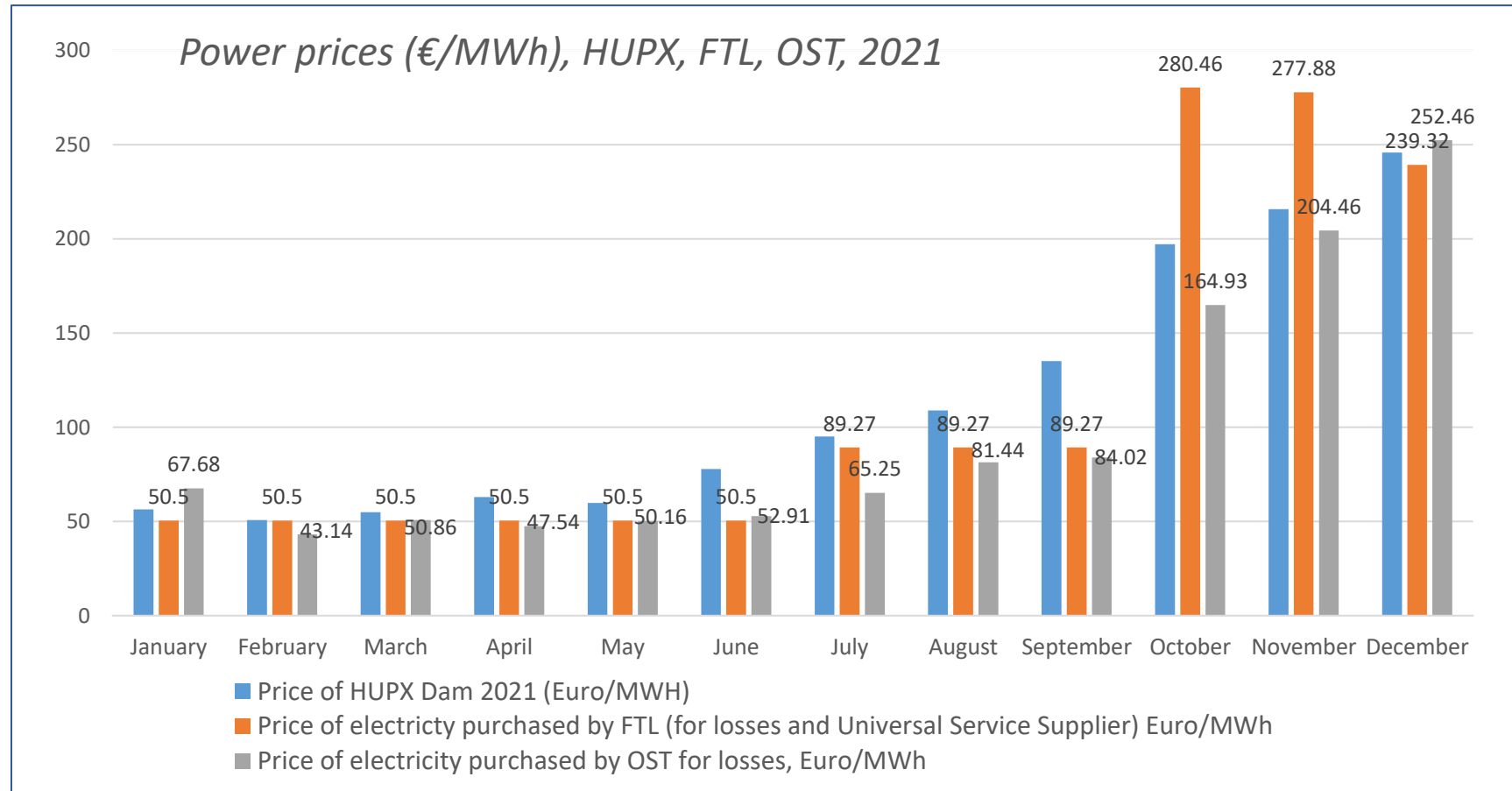
Wholesale prices EU27



1. The latest energy crisis and its impact on Albanian power sector

Impact on electricity market prices in Albania (2021)

- HUPEX prices reference for imports
- Impact on Albania was immediate
- Main importers / buyers
 - Free Market Supplier (FTL)
 - KESH
 - Universal Service Supplier



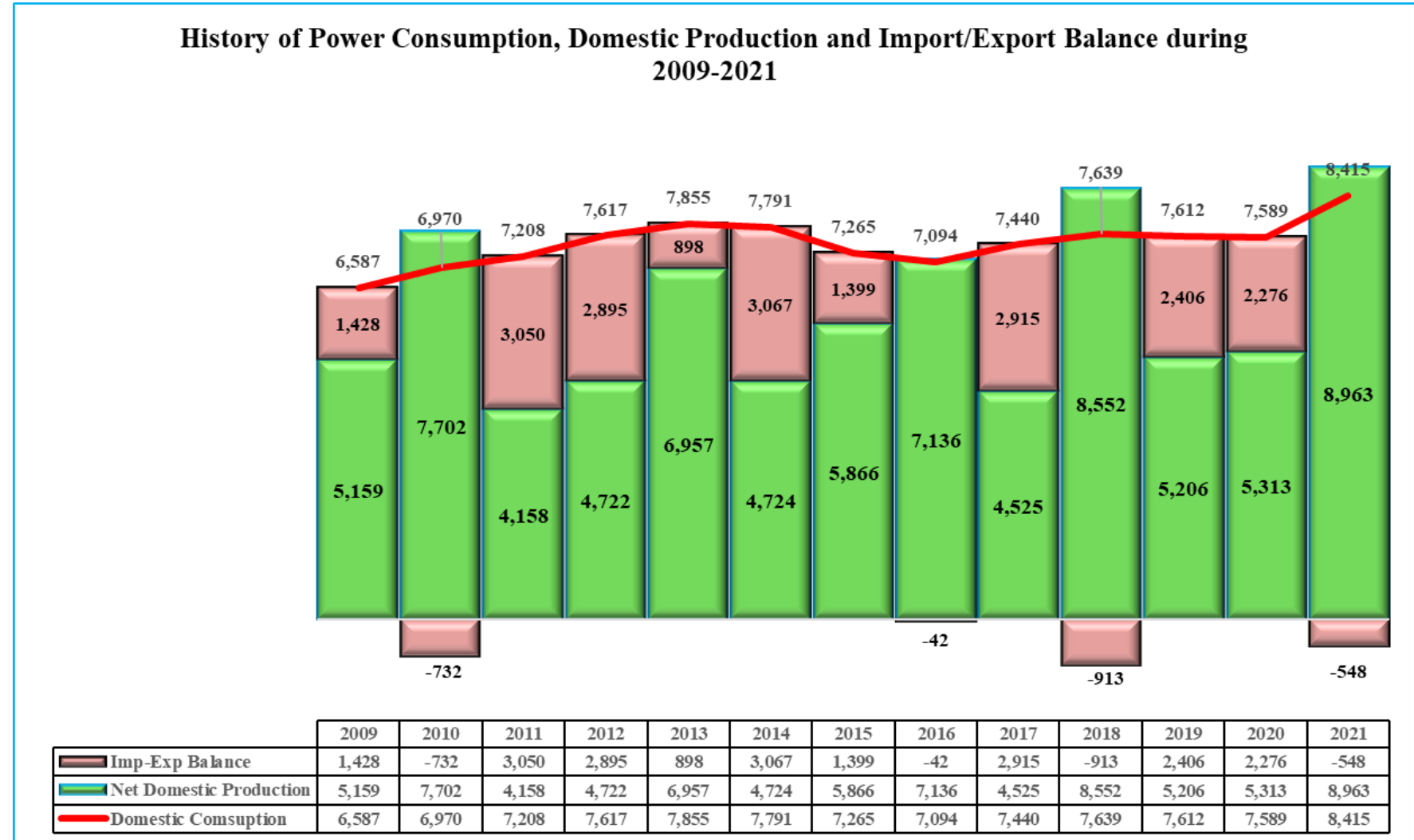
Companies with public service obligation:

- Public Gen. Company (**KESH sh.a.**) is in charge of electricity supply to Universal Service Supplier (FSHU) and after the state of emergency declared in October 2021 supply to cover electricity distribution losses;
- Public company 'Free Market Supplier' (**FTL**), is in charge of purchasing electricity from renewable sources (domestic) and in unregulated market for covering distribution losses and for the FSHU;
- Public company 'Universal service supplier' (**FSHU**), supply electricity with regulated tariffs to consumers that benefit from the universal service supplier, and is also supplying as Last Resort Supplier (FMF) to customer connected to 35 KV with the price decided by the Energy Regulator.

1. The latest energy crisis and its impact on Albanian power sector

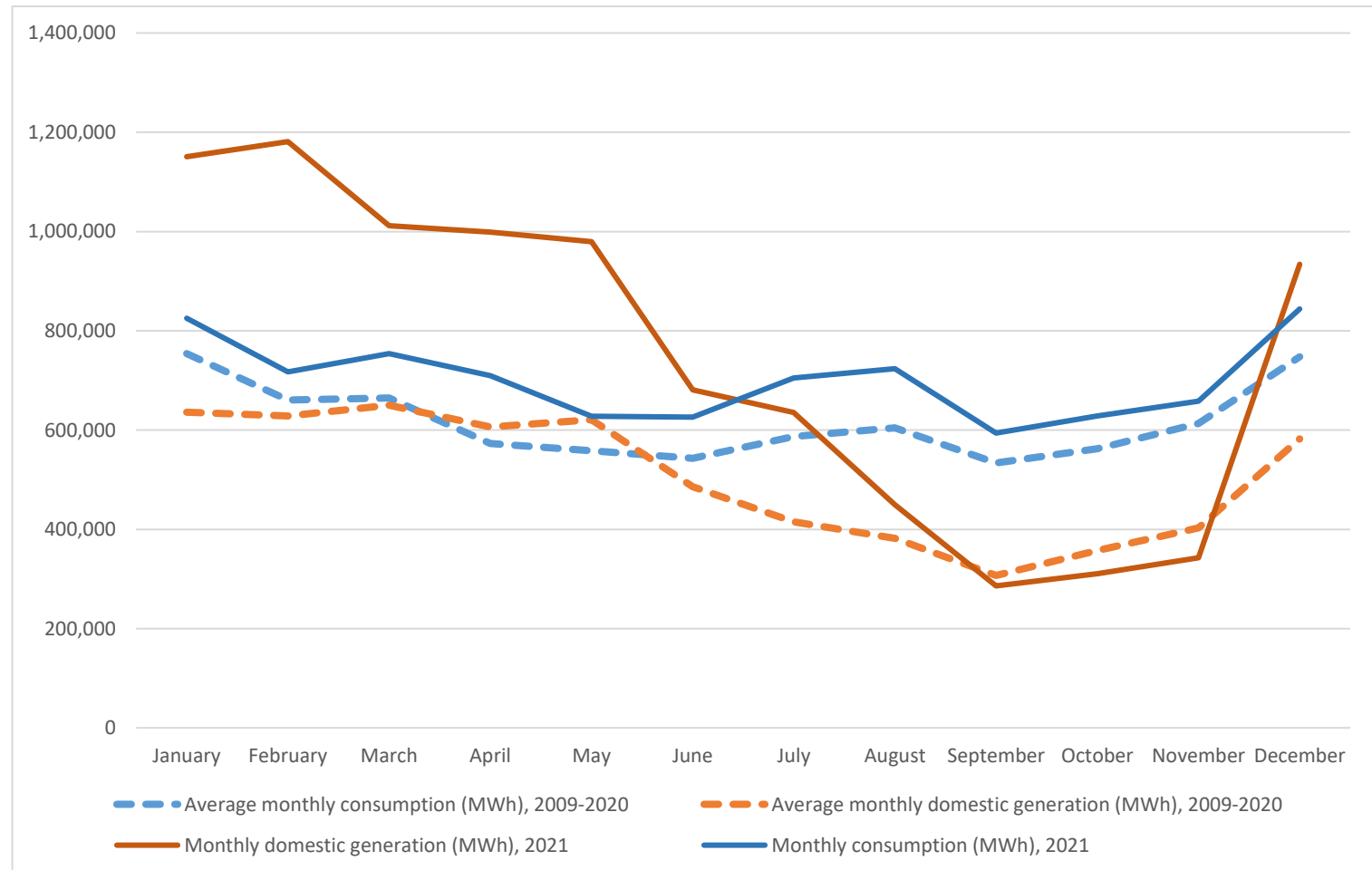
Domestic hydro production vs growing consumption

- Year 2021 was the best hydrological and power production year (**8.9 TWh**)
- but
- consumption was above historical average (**8.4 TWh**)
- Cost of electricity imports the highest ever!



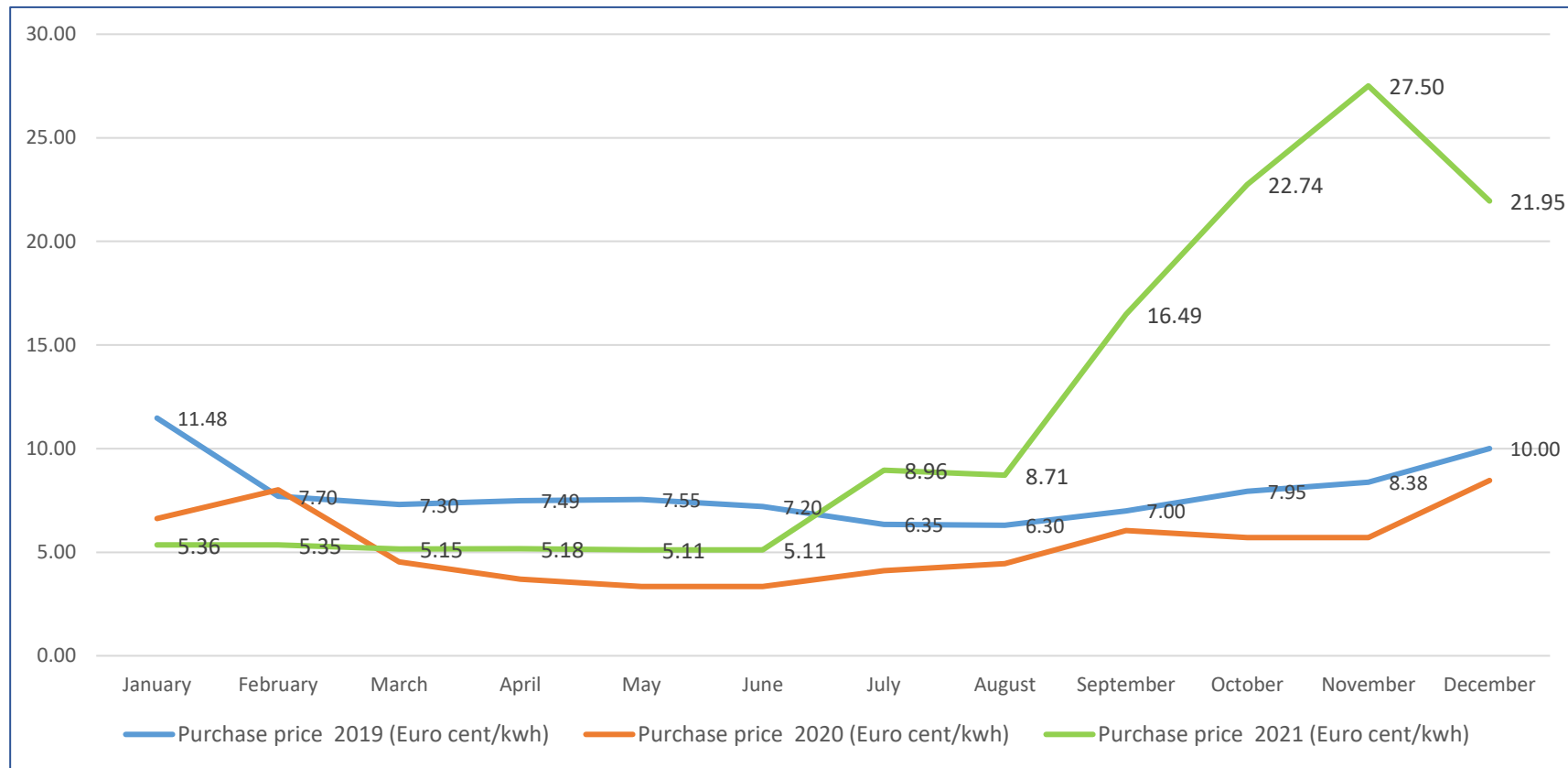
1. The latest energy crisis and its impact on Albanian power sector 2021 – why the highest electricity import costs?

- **Historical average monthly production vs. consumption. Particularities of year 2021**
 - Production meets or exceeds consumption during rainy season (March-Apr-May) when electricity prices are low due to similar rainfall in the whole region
 - Consumption exceeds production during summer (dry and hot months in the whole region) -> high import electricity prices particularly during second half of year 2021
 - For year 2021, Drini river Cascade should have been more carefully managed - by KESH (the public generation company)



1. The latest energy crisis and its impact on Albanian power sector 2021 – why the highest electricity import costs?

Electricity purchase prices by Last Resort Supplier in 2019, 2020 and 2021



1. The latest energy crisis and its impact on Albanian power sector

Financial impact (2021 – 2022)

- High financial pressure on OSHEE sha and Government of Albania.
- 95% of the electricity purchased in the unregulated market for year 2021 corresponds to August-December 2021

Electricity imports purchased by public companies, 2021- April 2022

Period	Quantity (MWh)	Average price (€/MWh)	Value excluding VAT (€)
2021	1,305,688	189.80	247,836,916
January-April 2022	557,469	232.64	129,690,320
TOTAL	1,863,157	202.618	377,527,236

1. The latest energy crisis and its impact on Albanian power sector

Resumée of 8 months of energy crisis;


➤ What happened?

- Beginning of April 2022 the power system was close to collapse (water levels in Drini cascade at critical low level)
- Security of supply was at stake
- Huge expenses for electricity imports (constituting 8% of annual total budget expenses)

➤ Who suffered the most?

- Consumers in the liberalized market (Large and SME's)
- Consumers supplied by the Last Resort Supplier (FMF)
- Universal Service Supplier (FSHU), as no change is made to the regulated prices of households and consumers connected to LV
- **The additional costs of FMF and FSHU have been subsidized by the Albanian Government**

➤ Has the situation being resolved?

-  **God helped again** – rain started in April and the domestic generation has recovered
- Similar situation has happened in 2001-2002 and 2007
- **Security of supply remains a big issue** – supply is vulnerable to weather conditions and market fluctuations

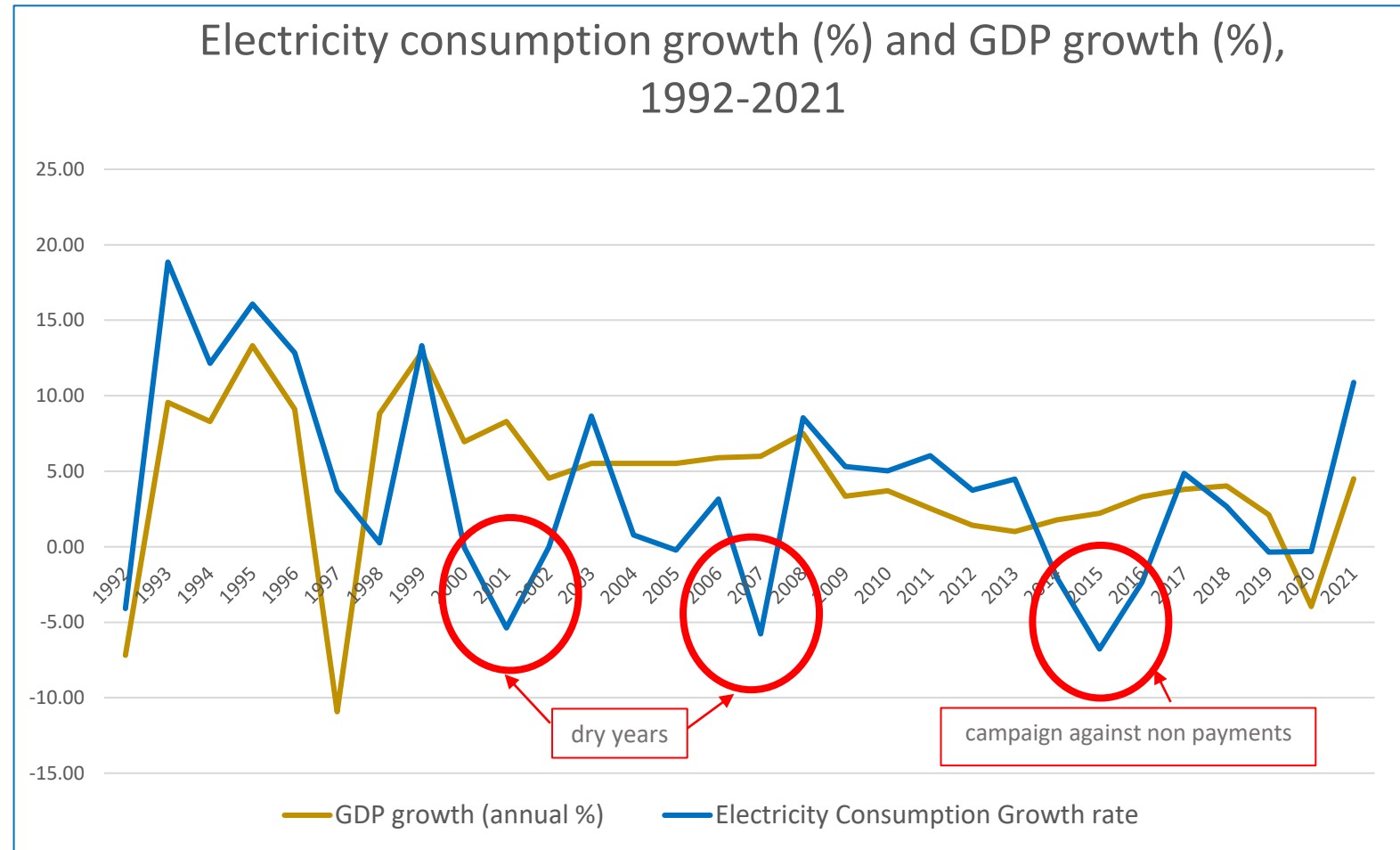
➤ The challenge(s);

- **Albanian power system has a fundamental issue with the portfolio of technologies of the generating resources.**
- **Latest crisis exacerbated the consequences**

2. Key traits of the Albanian power sector

Electricity consumption and GDP growth, 1992-2021

- Steady increase of power consumption during the last 30 years from 2.8TWh (1992) to 8.4TWh (2021)
- Average annual growth rate (CAGR) for last 15 years is 3.75% but only 2.6% after 2007
- Power consumption has followed GDP growth



2. Key traits of the Albanian power sector

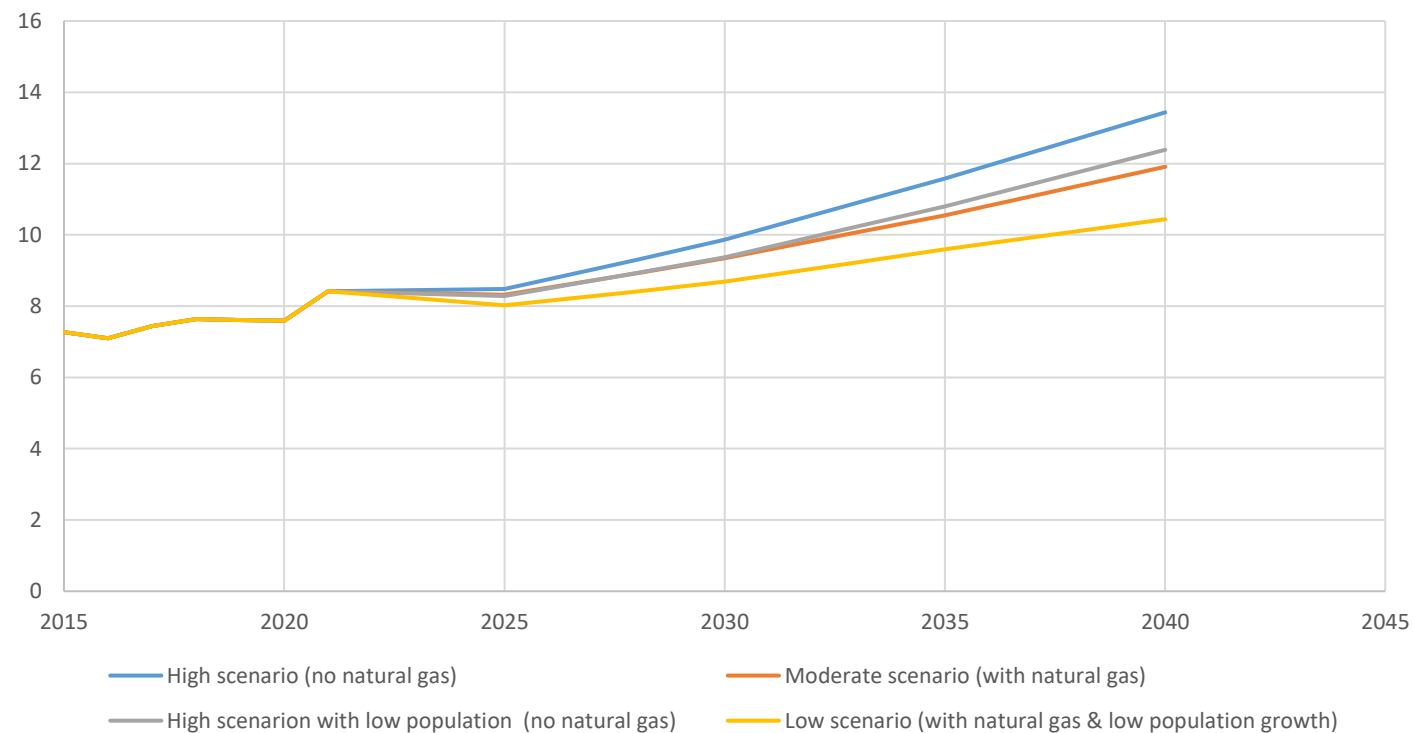
Power demand projections

➤ Four scenarios developed by OST;

scenario	Average annual growth rate	
	until 2030	2030 - 2040
High (no natural gas)	3.7%	3%
High with low population (no natural gas)	3.7%	3%
Moderate (with natural gas)	3%	2%
Low (with natural gas & low population growth)	3%	2%

Note: Actual levels of electricity consumption in 2020 (**7.6 TWh**) and 2021 (**8.4 TWh**) were higher than the levels forecasted by the TSO

Consumption forecast by OST (TWh)



2. Key traits of the Albanian power sector

Power generation capacity growth

➤ 2007-2021 (Hydro)

- 1,505 MW (2007) -> 2,605 MW (2021)
- 95% **hydro** generation
- Average annual growth 3.75% during the last 15 years
- Growth due to private investments in hydro generation, (average annual growth of 28.5%)
- 224 MW are expected to start operation during 2022-2023 period

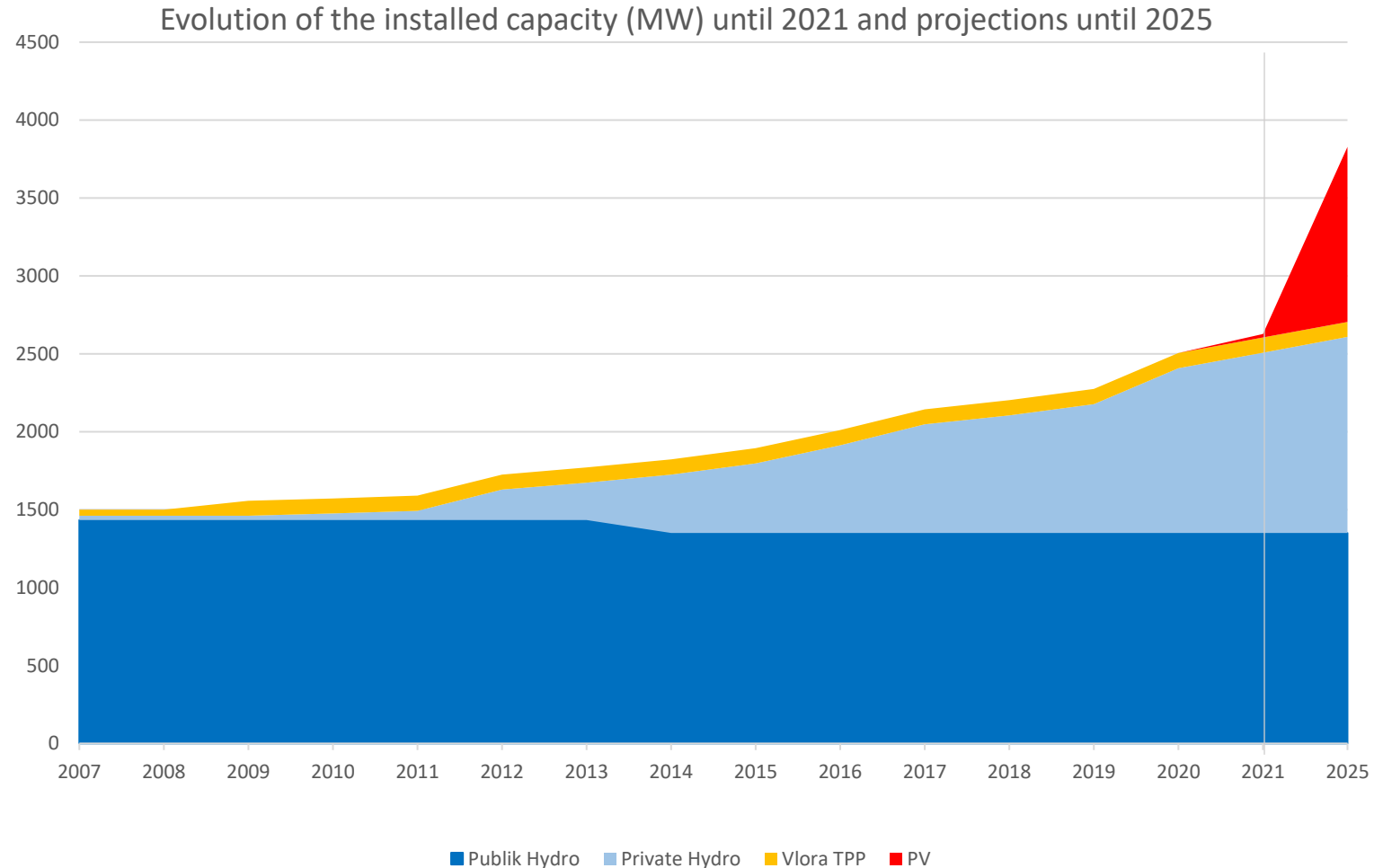
➤ 2021 – 2025 (PV)

- **PV** several projects under way;
 - 145 MW expected to start prod during 2022-23
 - 180 MW in principle approval to be connected to HV
 - 797 MW have obtained preliminary approval

➤ Beyond 2025 (RES + natural gas)

- Wind tender (100-150MW) opened and first results expected by 2023
- **Gas fired capacities (further info in the next slides)**

- **By 2030** if all is constructed, CAGR will be 3.9% (if HPP Skavica (250 MW) included than CAGR is 4.5%)



3. Main Challenges;

➤ **Being a contracting party of the Energy Community (EnC), Albania:**

- has to comply with all obligations vis-à-vis GHG emission reductions and market integration measures.
- has to increase its RES generation capacity, especially from photovoltaics and windfarms.

➤ **However, current generation portfolio is already based on RES which;**

- requires increasing balancing capacities,
- puts the security of supply at risk,
- induce high electricity prices

➤ **Market integration of EnC** contracting parties, though desirable, will require time

➤ The majority of countries in the region are net electricity **importers**

➤ Immediate actions are needed to solve the trilemma:

*Find a balance between: **Security – Affordability - Sustainability***

4. Looking into the future (1)

Integrated plan of actions

- **Gas to power** - Diversification of the generating portfolio by building baseload thermal power production capacities with natural gas
 - Putting Vlora power plant (97 MW) into operation using natural gas
 - Building additional 300 ÷ 400 MW CCGT capacity to serve Albania and region's needs
- **RES** - acceleration of new generation capacities by simplifying procedures
- **Interconnection and transmission capacity** need to cope with the upcoming increase of RES
- **Energy Efficiency**
- **Market liberalization and market integration**

4. Looking into the future

Gas has a special role to play for Albania ...

- **TAP + FSRU in Vlora bay** - by Excelerate and ExxonMobil.
 - Gas to Power (97MW + new 300 ÷ 400 MW)
 - SSLNG/CNG technology – appropriate for the emerging gas markets in Albania, Kosovo, Montenegro
 - TAP entry/exit point in TAP CS Seman, Fier
 - Gas pipeline Fier - Vlora
- **Both TAP and Vlora FSRU** offer new alternative gas supply to Italy, Greece, Bulgaria (through forward and virtual reverse flows)
- **Gas Underground Storage in Dumre** salt domes to benefit Italy, Greece and wider region (initial capacity 0.2 BCM expandable to 0.7 BCM)
- **Shpirag discovery**, Shell in central Albania

4. Looking into the future

Gas has a special role to play for Albania **and the region**;

- European Hydrogen Backbone - Five Potential Hydrogen Supply Corridors to Meet Europe's Accelerated 2030 Hydrogen Goals (published last week)



4. Looking into the future

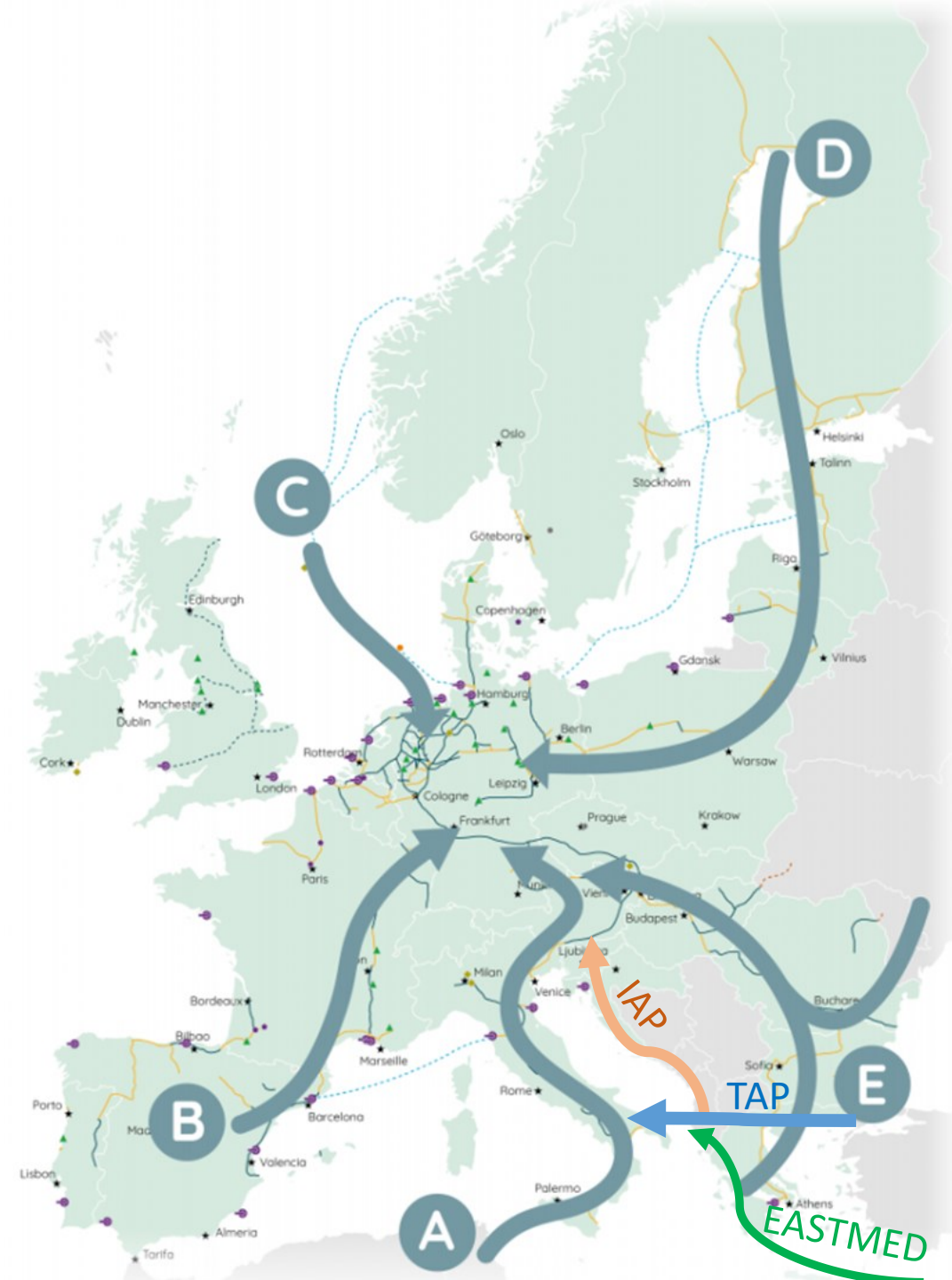
Gas has a special role to play for Albania and the region; **D**

- TAP already operational and willing to contribute to H2 transportation (White Dragon)
- IAP, next to TAP will enable access to central European gas and H2 markets
- EastMed, besides Leviathan gas, can be used to transport the abundant Greek and other western Balkan countries future H2 production to Italy and central EU markets
- Both IAP and EastMed can;
 - Improve the security of supply
 - Convert into H2 transportation towards EU markets
- **Momentum is for IAP and EastMed**
- **They should be a priority for the western Balkan governments**



*"In the midst of every crisis
lies an opportunity"*

Albert Einstein



THANK YOU!

shkelqim.bozgo@sea-consulting.co

www.sea-consulting.co

