**Speech by Mr. Jean-Marc Leroy at IAEE Sofia Symposium, 6-7 December 2018, Bulgaria**

Thank you Professor GEORGIEV, dear Atanas, for your very kind introduction.

Your excellencies, distinguished guests,

I am very honored to have been invited to deliver this first speech for the 1st Sofia Energy Economics Conference in such a prestigious venue.

I also have to confess that I am very happy to be back in Sofia two years after our GIE conference here, where we had such an outstanding welcome both by the Bulgarian Government and especially by Prime Minister Boyko Borissov, and by our dear friends and colleagues from Bulgartransgaz.

If by some weird chance you don't know what GIE stands for, let me recall that:

Gas infrastructure Europe represents in Brussels the interest of 70 gas infrastructures companies throughout Europe: transmission, storage and regasification.

Please, allow me now a very personnel comment.

Being back in Sofia, I would like to a have a special thought for my regretted friend Georgi Gregov, former Executive Director of Bulgartransgaz, and also for his family and for all his colleagues from Bulgartransgaz. Georgi was very committed to our association. He is a great loss for the European gas industry.

I am happy that my friend Vladimir Malinov so successfully took over the responsibility of leading now this important company.

I learned a lot from Georgi during our discussions, about the history of your country. All along its history, Bulgaria has been a cradle and a crossroad of civilizations and cultures.

What is at stake now is to follow this bright history and to make Bulgaria a crossroad for gas. And not only a crossroad, but a hub, becoming the cornerstone of the development of a liquid, transparent and efficient market for this Region, involving not only EU States but also all its neighbors, from the north, the east, the south and the west.

That is a very exciting challenge, and a key responsibility for the development of the gas business in this Region. Bulgaria enjoys a strong support from the European commission. It is for me an opportunity to congratulate the Bulgarian government for its successful European Presidency during the first semester of this year.

And to be frank with you, I am very impressed by all the achievement made by the Bulgarian gas industry and especially Bulgartrangaz during the last two years. And GIE is happy and proud to support you in this promising trip. For sure, the path is not over; a lot is still to be achieved. But congratulations for all the progresses already made.

A Hub…

But what are the main conditions allowing to successfully implement a regional hub? I will mention three of them:

Liquidity

Liquidity

And … transparency.

To be liquid a gas hub has to be fed by several sources and several routes. And Bulgaria has a key position in this regard. It can integrate pipe gas: for instance, from Azerbaijan or Russia, and also gas coming from regional production in the black sea shelf be it Romanian or Bulgarian from blocks Khan Asparuh, Silistar, Teres, and last but not least LNG trucked from Greece and Turkey.

Bulgaria can be the orchestrator of gas market dynamic connecting sourcing countries such as Russia, Romania, Bulgaria, USA, Azerbaijan, Algeria, Egypt, Qatar, Nigeria, Turkmenistan, Kazakhstan, Israel to a wide Balkan regional market including Bulgaria, Croatia, Greece, Bosnia and Herzegovina, Macedonia, Hungary, Romania, Serbia, Slovenia, Ukraine, Turkey. These markets are due to increase by 40 billion cubic meters annually over the next 25 years. And this hub will obviously not only cater for the needs of the Balkan countries but it will also enhance diversity of supply and then security of supply in southern and central Europe.

Obviously developing such a hub requires some prerequisites:

The first one is the development of interconnections with neighboring countries:

BRUA, Eastring and more globally new interconnections to Turkey, Romania, Greece, Macedonia, Serbia are paving the way to this successful hub development. And not later than last week the Energy Minister Temenuzhka Petkova announced the construction of a pipeline from the Turkish to the Serbian border at a total cost of 2.8 billion leva.

But a hub also requires flexibility and we all know that flexibility in the gas business goes together with gas storage.

Bulgaria also has a strong development plan in this respect with the extension of Cheren and potentially the development of another facility close to the black sea.

This is also key to provide liquidity to a virtual trading point.

Obviously, transparency is a key issue too.

Transparency allows the market to gain confidence in the way the market is functioning. It allows to take positions not only on a daily basis but also on forward markets and derivatives.

Indeed, a hub implementation is not a one-day story. It goes through several well-known steps:

First of all, developing third party access to pipelines, and putting in place bi-lateral trades, with clear and market friendly trading contracts and balancing rules. These rules are key because their goal is to solve the chicken and eggs problem: having gas and no clients or having clients and no gas … in this respect entry / exit model with a hub implemented in the balancing zone is the solution because it allows to efficiently solve this key question for shippers. Indeed those having gas in excess would find on the hub counterparts looking for gas to supply their consumers.

Afterwards, implementation of over the counter transactions will follow paving the way to more sophisticated offers and to new players to come such as pure traders.

Sophisticated offers include futures exchanges and ultimately derivatives. And at this stage you have delivered the implementation of an efficient hub.

Bulgaria is already on the way to progressively implement all these steps but once more liquidity is key in this regard. No doubt then that infrastructures development is a trigger.

Considering the broad program of this conference you will have the opportunity to discuss that further in depth.

But there is another issue I would like to tackle today: the de-carbonization of the energy sector.

From my point of view, the transition in energy should be a sustainable and competitive one. And I cannot agree more with the IAEE President, David Knapp, that access to energy and energy efficiency should on top of our agenda.

To achieve the energy transition, three conditions should be considered:

- Firstly, even if general rules could and should be established, the energy transition should be based on a territorial approach, considering all potential green energy sources with a bottom-up approach.
- The second issue is to draw advantages of the benefits that each energy offers to develop a harmonious energy mix. Renewable electricity can now be produced at a relatively low cost when it comes from solar panels and wind mills. But it is intermittent and difficult to store during a long period of time to meet seasonal consumption variation.
  Gas is very flexible, cheap to store or to transport. It is 10 to 20 times less costly to transport the same amount of energy using gas compared to electricity.
  Gas also has some environmental advantages: vey low Sox, NOx and fine particles emissions compared to coal and fuel. It makes gas the most efficient tool phasing out coal, oil and fuel to improve air quality.
  But… yes there is a but…
  Even if gas is by far the most environment friendly amongst fossil fuels, it is a fossil fuel. And as far as CO2 emissions are concerned, even if it emits less than other fossil fuels, gas is not CO2 free.
  Not or more precisely not yet…
  Because gas will become greener and greener progressively in the near future.
  To achieve that the gas industry will mobilize a wide range of technologies.
    - Anaerobic digestion to produce biomethane from agricultural wet wastes using a circular economic approach.

  - o Pyrogasification using dry biomass and carbonated waste as a feedstock to produce synthetic gas.
  - o Power to gas using green electricity and storing the sun or the wind into H2 thanks to electrolysis. This green H2can either be injected into the gas grid within certain limits or to be recombined with CO2 to produce synthetic gas
  - o CCS and CCU will also be part of the solution using depleted gas or oil fields for CO2 sequestration.
- And the last condition is to develop a global approach for energy breaking through the traditional silos between electricity, gas and heating and cooling, and tomorrow hydrogen.

  Only this holistic vision can allow to deliver a competitive energy transition toward a decarbonized mix.

  At mid term it will oblige gas infrastructures operators to redesign their business model.

  It will also require regulatory authorities to develop a new economic approach to efficiently drive the advantages for the consumers of this sector coupling approach.

  That’s a very exciting challenge.

  Be sure that GIE will take its part in building the European Energy future.