N. Chatziargyriou: "Smart Adapt or Die?"

Good day, Ladies and Gentlemen,

Sincere thanks to The Economist for inviting me at today's Conference that focuses on an extremely intriguing topic: sustainability and sustainable growth.

Sustainable growth has been at the core of a quite a lot of debate on the concept, the benefit and purpose over the past few years.

Generally speaking, the relationship between economic growth and protection of the natural environment has been at the heart of discussions and considerations for at least four decades, starting from the UN conference on Human Environment in the 1970s and reaching the well-known Paris Climate Change commitments.

In this long, multi-national debate, the concept of sustainability has matured enough to evolve into a major parameter in the strategic economic growth for most countries.

I think we have reached the point where we should just admit that environmental protection is a starting point rather than a hindrance to growth. Goals are not in conflict, instead they do complement each other.

Ladies and gentlemen, energy sector has been at the heart of considerations on how to implement the appropriate sustainable growth model given the environmental burdens incurred by fossil fuel combustion for energy generation purposes.

Climate change-related European targets have been set based on sweeping changes in energy sector.

Increased penetration of Renewables in the energy mix makes for a fundamental pillar of the strategy that EU Member States are now implementing as part of the agreed European targets.

The targets set for the reduction of gas emissions, energy sufficiency and increased penetration of Renewables signify the onset of a revolution in the European energy market.

Technology plays a leading part in this revolution and is crucial ally to the process of transition to a zero-carbon economy.

Decarbonization of economy is intertwined with increased RES penetration and Distribution Networks.

In order for us to be able to ensure increased RES participation in the energy mix, it is imperative that we upgrade and modernize Networks by way of new technologies.

Integration of distributed generation RES stations in the Network means that we will have to address several and complex technical issues affecting the operation of the network. **Smart Grids allow for new RES stations to integrate into the Network by incorporating them into the underlying rationale of its operation without any further investment in the infrastructure of transmission and distribution networks.** Resolving these issues will smooth the way for an increased RES penetration.

This is why next generation Networks, known as Smart Grids, are today at the heart of planning strategies of all forward-looking electrical energy distribution companies as it is more than certain that transition to the energy market of the future that will both meet high **environmental standards and offer high quality services at a low cost can only be achieved through the use of smart grids.**

Smart Grids are here to supply consumers with more RES generated energy, offer them more smart options for more economical and efficient use and/or production of electrical energy, enable them to create their own energy profile so that they participate in the market, no longer as passive consumers but as active ones. Smart Grids are here to give Operators greater and more effective control of the systems through automations and new technologies, and will lead us to **cleaner energy and sustainable growth.**

Investment funds required to transform this vision into reality are exceptionally high. From a total of about 600 billion euro required to invest in European networks by 2020, 400 billion euro, that is two thirds of the entire amount, will be implemented in the Distribution Grids. Investments will be shifting toward the Low cost Networks, as DSO share in the overall investment is estimated to reach 75% by 2035 and 80% by 2050. Moreover, digitilization of European Grids will require investment funds of a total estimated amount of 62 billion euro by 2025.

The times of large investments in conventional electrical generation units to cover Europe's power supply demand are over.

Smart Grids are currently drawing investors' interest as they pave the way for larger investments and higher competition in both production and power trade.

Ladies and Gentlemen,

In keeping with the developments across Europe, the Greek energy market is also going through times of dramatic and rapid changes.

In addition to the international trends, the internal market is affected by the pessimistic prospects for electrical energy demand, a fact that can be explained by the continuing economic recession, but also by the need for consumers, the industry and businesses to be provided with lower energy rates.

At the same time, RES penetration generates a power surplus and an adverse impact on the possibility for good investment performance as regards thermal power.

In this environment, the market is going through an intense re-organization process whose main features are:

- ✓ New players in the market that cut down PCC share and change the role of HEDNO and other market institutions such as IPTO, LAGIE, etc.
- ✓ Launching of NOME auctions
- ✓ Implementation of a single European market model (target model)

HEDNO, on its part, being the sole responsible Operator of the Electrical Energy Distribution Network across both mainland and insular Greece, is the top player in the process **of transition of our market to the new era, of taking all action required to ensure sustainable growth for our country.**

HEDNO is the operator of a network whose length is 6 times the perimeter of the earth. HEDNO's mission is to ensure delivery of uninterrupted power supply to 7.4 mln consumers across the country. Our vision is to achieve the best possible combination between quality services and low cost, **at the same time making the environment our top priority.**

HEDNO has connected the Network with 56,500 RES, which translate to a total capacity of 3,790 MW.

The slide presents the different types of RES that are interconnected with the Network, plus the total RES on the Non-Interconnected Islands, exceeding 5,000 and reaching 483 MW of capacity.

HEDNO has made the decision to invest in Smart Grids and to all relevant technology innovations in order to help upgrade and modernize the heart of energy market. And all this, despite the adverse economic circumstances we have been experiencing in our country.

Admittedly, there is an imperative for change and modernization. Today we must work on planning the Grids of the future for Greece. We should take action without further delay.

We want better, cheaper and greener energy so we are working already into that direction.

In order to materialize our vision for an intelligent Grid, we would need to implement and coordinate certain major projects. Our strategy is exclusively built on **the introduction of new innovative technologies.**

Our investment plan amounts to 1.25 billion euro, funds that we aim to pump into the Greek Network by 2020 in order to transform it into a Smart System; we create the appropriate conditions and build the required infrastructure to get **'clean' and more economical electrical energy, upgraded services for all Grid users and stimulate the internal economy** by, let me emphasize on this, creating new business opportunities for hundreds of Greek businesses, especially small and medium-sized ones that could develop new applications and solutions to help with the transition to this new landscape.

At this point I would like to say a few words about a part of our strategic plan that we see as both a priority and a challenge; the islands.

HEDNO is the only Distribution Operator in Europe which, based on the institutional powers conferred to it, i.e., ensures proper operation and management of the Electrical Systems (a total of 32) operating on the Inter-Connected Islands.

It is a difficult and much complex project, as there are too many island-specific features (size, population, distance from mainland, isolated ES with no possibility for energy exchange with other electrical systems, etc.)

However, islands make also for the best implementation field of our strategy for sustainable growth. They offer great potential for RES expansion thanks to high wind speeds and reflected solar radiation. In 2015, RES generation had already reached 17-18% and this year's output is around 18-19%.

HEDNO's strategy of choice is to make islands the company's top priority by designing and implementing all projects required to ensure modernization of their infrastructure.

The deployment of a smart island with RES penetration reaching and/or exceeding 60% is a major challenge for us. It is an innovative project **that makes a positive contribution to the protection of the environment**, which will be able to work as a pilot project and extend to more islands.

Ladies and Gentlemen,

HEDNO makes the "SmartAdapt" choice to meet the challenge of sustainable growth,

HEDNO chooses to invest in Grids that will offer us better, cheaper and greener energy;

implement modernization;

leave all that is now obsolete and the move forward to achieve its main goal: essentially contribute to the economic growth of our country with our minds focused on the future we create for the generations to come.

Thank you very much.