

**13 October 2017, Conrad Hotel**

Istanbul, Turkey

**IIEEC 8th INTERNATIONAL ENERGY AND CLIMATE FORUM**

**"Global Energy Investments: What's Next?"**

The 8th International Energy and Climate Forum by the Sabancı University Istanbul International Center for Energy and Climate was held on Friday, October 13, 2017 under the theme "Global Energy Investments: What's Next?".

Delivering introductory remarks of the Forum, Sabancı University Founding Board of Trustees Chair Güler Sabancı gave global messages to the energy sector. Sabancı expressed her pleasure in the host of the Forum, IIEEC, having been recognized as a global center with its motto "Where global energy connects", continuing:

"As you all know very well, the energy sector is the backbone of economic growth and technological development; it is vital for ensuring the sustainability of societies. Energy is one of the most strategic sectors worldwide due to its connection with global commodities, the majority of industries, geopolitics, and the everyday needs of societies. We cannot achieve consistent growth and welfare for societies unless we develop sustainable energy solutions."

***More than 90% of global energy investments is private***

Reminding the audience that the private sector finances more than 90% of energy investments worldwide, Güler Sabancı said:

"The keyword here is 'optimization'. The energy sector needs to be optimized around strategic priorities, financial restrictions, diversified energy market models, and the most advanced energy technologies available. When doing so, security of energy supply, competitiveness, economic efficiency, and social and environmental sustainability must bear equal weight."

Saying that the Ministry of Energy strategy on local and renewable energy resources for better diversity in electricity generation, and their critical steps in extending the security and flexibility of natural gas supply were critical for the sector, Güler Sabancı continued:

"Expanding the use of local and renewable energy resources improves security of supply while making a great contribution to reducing the current deficit. Initiatives for the efficient use of Turkey's current installed capacity and the modernized use of domestic lignite sources are also important for security of supply. Recent steps like FSRU and storage investments were appropriately timed to improve the security and flexibility of natural gas supply, which is a key component in security of supply for electricity. To take these precious developments further, we expect the liberalization of the natural gas market, predictable pricing for natural gas, and more choice in pricing due to global and regional developments in LNG. We are strongly behind Turkey's vision to expand the role it plays in regional natural gas dynamics."

***90 billion invested in 15 years***

Explaining that the Turkish energy sector attracted 90 billion dollars in investments in electricity sector only and achieved a remarkable growth rate in the last 15 years as a result of Government's efforts and private sector's trust and confidence on competitive energy policies as well as a positive outlook for improved efficiency and transparency, Güler Sabancı continued:

"We need to develop a predictable, competitive and future-oriented energy market to ensure financial sustainability and the thriving of this strategic industry to contribute to sustainable growth in Turkey. We must continue to take steps toward improving the predictability, competitiveness and efficiency of our energy market that will serve the interests of energy customers and the economy at large."

Güler Sabancı recommended the following: "We need to build a pricing mechanism that is based on dynamics such as supply, demand, cost, efficiency, and technology. We need to terminate regulated energy tariffs to this end. This will ensure both competition and better utilization of the energy efficiency potential in Turkey."

Güler Sabancı argued that the focus of energy issues must not be narrowed down to supply only, continuing:

"Ultimately, energy efficiency will only benefit us if we have functional and competitive energy markets, and no subsidies or unsound price limitations. Future-oriented trends like new technologies and innovative business models may bring considerable efficiency and sustainability benefits to Turkey. These solutions may contribute to a more secure, efficient and competitive energy future. We can orchestrate our efforts and cooperation towards better utilization of our potential."

#### ***Minister of Energy and Natural Resources Berat Albayrak***

Minister of Energy and Natural Resources Berat Albayrak said that the global demand for energy would double by 2050, and steps taken towards meeting this demand led to comprehensive shifts in energy balances recently. Minister Albayrak continued:

"New technologies, persistent innovation and the emergence of new energy resources as a result of access to fields that used to be beyond reach enabled some countries that had been net importers of energy become exporters."

The demand for energy is rapidly shifting from the West to the East due to economic growth. The growth targets set and achieved by China, India, and economies in the Middle East and Southeast Asia, and the diversification they sought in order to achieve their development targets and provide for the needs of their growing industries bear weight in the energy market."

Minister Albayrak stated that affordable energy was critical to sustainable growth in countries heavily dependent on imported energy, like Turkey, and continued:

"Since 2002, the Turkish economy has grown by 6% almost every year. Naturally, the growth in the economy brought growth in the need for energy as well. The medium- and long-term energy projections for Turkey are set to ensure security of supply while mitigating our carbon footprint at meaningful levels. In 2016, renewable energy resources accounted for 55% of the new additions to Turkey's installed capacity. A further 64% of the power plants commissioned in the first 8 months of this year were also based on renewables. Turkey was 7th in the world and 3rd in Europe in terms of commissioned wind energy capacity in 2016."

***IEA Executive Director and Sabancı University IICEC Honorary Chair Fatih Birol***

International Energy Agency Executive Director and Sabancı University IICEC Honorary Chair Dr. Fatih Birol pointed out that the global investment in energy was 1.7 trillion dollars in 2016, continuing:

“Global energy investments were lower in 2016 compared to the previous year. There is significant decrease in the oil and gas sectors as well. For the first time in history, investments in electricity exceed those in oil and gas. In other words, electricity is more attractive than oil and gas. Large investors are, of course, US and Europe. However, the leading investment target is China. The United States had remarkable success in the production of shale oil, and production is likely to increase. The production of shale oil in the US alone is on par with oil production in Iraq. Shale oil becomes a major player in the global oil market.”

***Sabancı University IICEC Director Prof. Carmine Difiglio***

Also speaking in the forum, Sabancı University IICEC Director Prof. Carmine Difiglio said that global investments needed to meet the rising global demand, cause less emissions, and provide a return in the ever more competitive global energy market, and continued:

“National policies must also take into consideration security of supply achieved through use of own resources and diversification of imported energies. One of the best local energy sources available is renewable energy. This is especially true for countries without fossil fuel reserves. Another significant resource is energy efficiency, which we are not used to thinking as a source of supply. However, energy efficiency may become our best resource as it does not require us to build power plants or import oil. There are plenty of opportunities to further encourage energy efficiency.”

***The priority in the energy sector is security of supply and availability of sustainable energy***

Two panels held during the forum discussed "Global Energy Policies" and "Technological Future of Energy." Speakers in the "Global Energy Policies" panel were Christian Berger, Ambassador of the European Union to Turkey; Prof. Jason Bordoff, Founding Director, Center on Global Energy Policy, Columbia University; Ladislav Paszkiewicz, Senior VP Strategy & Climate, TOTAL; Dev Sanyal, Executive Vice President of Regions and Chief Executive of Alternative Energy, BP; and Dr. Vitaliy Yermakov, Head of Center for Energy Policy Research, Energy Institute of Higher School of Economics, Russia. The moderator of the panel was International Energy Agency Executive Director and IICEC Honorary Chair Dr. Fatih Birol.

Ambassador Christian Berger noted that security of supply and availability of sustainable energy were key priorities for the EU, emphasizing the importance of renewable energy resources and the need to reduce the consumption of fossil fuels. Berger also said that they would achieve their greenhouse gas emission reduction targets by 2020. Renewable energy would have a share of 27% in global energy by 2030 compared to only 8% in 2005, said Berger.

Prof. Jason Bordoff, Founding Director, Center on Global Energy Policy, Columbia University, said that the energy market was prone to undergo great changes in the next decade. Bordoff explained that regulation in energy was not an easy process, and stated that while coal was in categorical decline, reductions in fuel economy standards and subsidies for coal gained importance. Ladislav Paszkiewicz,

Senior VP Strategy & Climate, TOTAL, said, "TOTAL's main purpose is to make affordable, sustainable and clean energy available to as many people as possible."

### ***Technology reduces the cost of solar energy***

Also speaking in the panel was Dev Sanyal, Executive Vice President of Regions and Chief Executive of Alternative Energy, BP, who said that energy continued to be a vital part of economic welfare. Sanyal said that security of supply and affordability were as important as sustainability, predicting that 70% of the world's population would be living in urban areas by 2050. Sanyal also said that technologies accounted for 99% of the reduction in the cost of solar energy over the last 40 years.

Dr. Vitaliy Yermakov, Head of Center for Energy Policy Research, Energy Institute of Higher School of Economics, Russia, said that the reserves, production and export of natural gas in Russia were significant. Explaining that gas revenues was a major input to the federal budget, Yermakov continued that Russia had begun to take steps towards reducing hydrocarbon dependency due to oil and gas prices. Discussing US sanctions on Russia, Yermakov remarked that this had compelled them to focus on Asian countries, agreements with India and China being examples.

### ***Technological Future of Energy***

The "Technological Future of Energy" panel was moderated by IICEC Director Prof. Carmine Difulio, while speakers were Luay Al-Khatteeb, Executive Director, Iraq Energy Institute; Dr. Tareq Emtairah, Director of the Energy Department, United Nations Industrial Development Organization; Hans Jørgen Koch, CEO, Nordic Energy Research; Paddy Padmanathan, President and CEO, ACWA Power; and Dr. Hans-Holger Rogner, Senior Scientist, International Institute for Applied Systems Analysis (IIASA).

Luay Al-Khatteeb, Executive Director, Iraq Energy Institute, said that the demand for oil would continue into the foreseeable future, and noted the importance of diversity in the energy sector. He linked the rise of the US to prominence in production to developments in technology and renewable resources.

Dr. Tareq Emtairah, Director of the Energy Department, United Nations Industrial Development Organization, emphasized the importance of energy for industrial development, and said that clean energy was the backbone of development in underdeveloped countries. Reminding the great need for energy in the agricultural sector, Emtairah said, "The private sector takes aversion to certain risks due to economic reasons. As a development organization, we reach out to these markets and make technology meaningful within a certain context."

Hans Jørgen Koch, CEO, Nordic Energy Research, discussed the advanced research in insulation in the cold climate of Nordic countries. Koch said, "We need to increase energy efficiency in buildings by a factor of three if we are to achieve our targets. We need carbon scrubbing and storage technologies."

Also speaking in the panel, Paddy Padmanathan, President and CEO, ACWA Power, emphasized the impact of technology on the energy industry, while Dr. Hans-Holger Rogner, Senior Scientist, International Institute for Applied Systems Analysis (IIASA), said that industrialized nations played an operational role in the nuclear energy sector.