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"AI Approaches in the Field of Oil, Gas, Mining, and Energy, including Legislation in the Sector"

The message of Dr. Sebastian-Ioan Burduja, Romanian Minister of Energy addressed to the participants of the Council Meeting WPC Energy

American Petroleum Institute, Washington DC USA, 21st - 23rd October 2024

Ladies and Gentlemen, distinguished experts, colleagues, and friends,

First and foremost, I would like to extend my heartfelt congratulations to the World Petroleum Council for organizing this essential and forward-thinking workshop. The theme of today's discussions is not just timely, but critical for the future of our industry. We are not only discussing the path to transforming our energy sector into one that is smarter, more efficient, and more sustainable, but also the security and competitiveness of our economy.

The WPC has long been a vital institution, bringing together industry leaders, governments, and experts from around the world to address the most pressing challenges of our times. Romania's strong participation over the years is a reflection of our strong commitment to advancing our energy sector and being part of a global community that shares knowledge, expertise, and vision for the future. The WPC serves as a platform for us all to exchange ideas and solutions, and Romania is proud to contribute and learn from this community.

Our country has a long and rich tradition in this industry, as are one of the first in the world to establish a modern oil and gas industry. Today, we continue to build on that strong basis, ensuring that we remain a regional leader in energy production, distribution, and innovation.

Over the past decade, Romania has invested significantly in modernizing its energy system. Our Black Sea gas projects, particularly Neptun Deep, represent major advancements in our natural gas sector, promising to increase production and contribute to energy security in both Romania and the region. We are also investing tremendously in new renewable energy generation capacities, combined heat and power plants, new nuclear capacities, energy transmission and

distribution infrastructure, as well as energy storage. We are committed to becoming a central energy hub in Southeast Europe, playing a vital role in the diversification of energy supplies and reducing dependency on imports. At the same time, in the mining sector, we are exploring innovative methods for resource extraction that prioritize environmental protection and we are planning to relaunch the industry, in order to improve the supply of primary energy resources, as well as of the materials needed for the energy transition.

Turning to the main theme of this workshop, it is clear to all that AI is already revolutionizing the energy sector across the spectrum, from exploration and extraction to distribution and even policy-making. Romania has already started to integrate AI solutions in various parts of its energy value chain, and we are seeing substantial benefits.

In the oil and gas industry, AI is playing a transformative role in predictive maintenance, optimizing production processes, and enhancing the safety of operations. Our energy companies are using AI-driven data analytics to assess seismic data and improve the accuracy of exploration efforts. This not only saves time and resources but also reduces the environmental footprint of exploration activities. For example, predictive models powered by AI have allowed our companies to increase efficiency in deep-sea drilling, especially in projects such as those in the Black Sea.

Moreover, in the energy distribution sector, AI-powered smart grids are helping us manage energy flows more efficiently, reducing waste and optimizing energy usage across the country. This becomes especially critical as Romania increases its share of renewable energy sources. AI enables the better integration of these intermittent energy sources into the national grid, ensuring stability and reliability even as we transition to a greener energy mix.

Not the least, in mining, AI applications are being used to optimize extraction processes and improve worker safety. Autonomous vehicles and AI-powered machinery reduce the risks associated with manual labor in hazardous environments, while deep data analytics enable better resource management, minimizing waste and maximizing output.

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The development of AI in the energy sector, however, is not without challenges—particularly as regards legislation. Romania recognizes the need for a robust and forward-looking legal framework that govern the application of AI in these critical industries. We are working on policies that balance innovation with responsibility, ensuring that the integration of AI respects ethical considerations and fosters sustainability. For instance, our new legislation on cybersecurity takes into account the growing reliance on AI technologies, ensuring that our critical infrastructure remains secure against potential threats.

It is clear that we stand on the cusp of a new era in the energy sector—an era where AI will be a driving force behind increased efficiency, sustainability, and innovation. As we look ahead, Romania's vision is clear: to become a regional leader in energy, including through the use of best application of AI in the sector. The integration of AI-powered solutions helps optimize energy flows, improves resource management, and enhances the resilience of our energy system.

Once again, I extend my thanks to the World Petroleum Council for organizing this important workshop.

With the kind support of Mr. Pavel-Casian Nitulescu

Secretary of State, Ministry of Energy, Romanian Government