

Nobel laureate Rae Kwon Chung talks about energy scenarios



Nobel Peace Prize laureate Rae Kwong CHUNG gave a lecture at Polytechnic University on the future of green energy. The event was held as part of SPIEF-2021 and the International Conference «Sustainable Development. Global Challenges.» The organizer of the conference, which will be held in St. Petersburg Polytechnic University under the auspices of Peter the Great on June 3, is Russia's only UNESCO Department in Quality Management in Education for Sustainable Development.

Nobel Laureate Rae Kwon Chung gave a lecture at SPbPU Unstoppable Global Trend: Net Zero 2050 and Russia.

The meeting was moderated by Rector of SPbPU, RAS Academician Andrei Rudskoi, Vice-Rector for Science of SPbPU, RAS Corresponding Member Vitaly Sergeev, and Sergey Brilev, a well-known international journalist, TV presenter (program «Saturday News» on the TV channel Russia) and President of the International Global Energy Association. He spoke about the work of the association and the nominees of the international award of the same name (See: «For reference»), and also introduced the lecturer. Mr. Chung was born in South Korea and graduated from Georgetown University (Washington) with a Master's degree in science in diplomatic relations. He directed the South Korean Ministry of Foreign Affairs and Trade. Since the early 1990s, Rae has been involved in the environment and climate change issues and is a world-renowned expert on sustainable development and climate change and the author of the concept of Green Growth,

which focuses on economic growth while maintaining an ecological balance for future generations. For a long time, Rae Kwon Chung was chief adviser on climate change to Secretary-General Ban Ki-moon. Mr. Chung also chairs the International Award Committee for the Global Energy Prize, is a member of the Intergovernmental Panel on Climate Change and is an honorary professor at Incheon National University (South Korea).



Sergey Brilev stated that the problem of climate change has become perhaps the greatest challenge that mankind has ever faced. And Russia, more than any other country, is facing serious challenges in terms of climate change. According to experts, the key to preventing the worst effects of global warming lies in the energy sector, as it is responsible for about three-quarters of greenhouse gas emissions. The global community must fundamentally change the way it produces, transports, and uses energy. Decarbonization will be very difficult, but it is possible and will bring enormous benefits to the world economy. The journalist announced that as early as June 3 on the sidelines of SPIEF-2021 the Global Energy Association will present a report entitled «10 Breakthrough Ideas in Energy for the Next 10 Years» noting that many of its topics largely overlap with the issues Mr. Chung will raise during his report, namely: what technologies can help conventional energy move into the low-carbon age, whether renewables will continue to grow as a share of the global energy mix, and why emissions reduction policies could be a chance for small-scale nuclear and hydropower.

Since 2005, Rae Kwon Chung has promoted the concept of low-carbon «green growth» as a new paradigm that implies economic development of countries and job creation while fighting climate change: «A green economy is not just about fighting for the climate and the planet, but also about

economic growth, profitable exports, and new jobs at the same time. I insist that the green economy should not be looked at only in terms of environmental protection.» He also suggested a mechanism of «green development» whereby developing countries can independently initiate projects to reduce greenhouse gas emissions: The potential (human resources, minerals, land area, climate, and others) of all countries is different. But this does not mean that developing countries cannot choose the path of «green development» for themselves. Money and technology are not the determining factors; the attention should be focused on politics. If you have the right policy, money and technology will follow.



The main ideas spoken by Rae Kwon Chung during his lecture «The Unstoppable Global Trend: Carbon Neutrality by 2050 and Russia» are that humanity must have a long-term vision where society and nature are equal economic priorities. This is the whole point of the concept of sustainable development.

Who is going to change the existing paradigm to a «green economy»? This, according to Mr. Chung, should be done by the government, not private business. It is the government that should be the engine of progress — without its participation, it will be impossible to achieve the goals of sustainable development. At the same time, the expert notes, no government will be able to cope with this task without the support of society.

The concept of achieving climate neutrality by mid-century is called «Net Zero by 2050» and implies that by 2050 CO₂ emissions must be reduced by 70% compared to 2020. But how can this be done when the world's population is growing, just as carbon emissions are increasing by 1.7%

annually? Answering this question, Rae Kwon Chung points out that climate change is not only a problem, but also an opportunity. That is, reducing emissions (decarbonizing) creates a new market, new jobs, new economic growth, and the possibility of a safe future.



Assessing the prospects for energy development, Mr. Chung said that for Russia, «clean energy» is a complicated issue because we produce oil and gas in large quantities. And how to use oil and gas sustainably, so that the energy is clean, and oil and gas do not create additional loads of climate change? According to the expert, this requires the development of technology to capture and store CO₂. Russia should engage in this technology, should make it cheap — in this case, it will be able to continue to use oil and gas and not affect the changing environment. Also, according to Rae Kwon Chung, our country has great prospects to become one of the leaders in the production of hydrogen for the development of new energy, and Polytechnic University is well-positioned to provide strong support for the future of energy. The university can carry a positive message to the country and society in the development of green energy.

Students and employees of specialized institutes of SPbPU, experts in the field of renewable energy and development of thermal energy, renewable energy, and energy-saving technologies took place in the discussion of Mr. Chung's report. The expert answered all questions in great detail.

During the talks that preceded the lecture, the possibility that Rae Kwon Chung will head the Environmental Energy Laboratory at Polytechnic University was discussed. Rector Andrei Rudskoi emphasized the particular importance of international cooperation in the field of renewable energy

and the importance of focusing global efforts to achieve the UN Sustainable Development Goals (SDGs).