

Prof. Dennis G. Whyte has announced the calendar in fusion energy at the IICEC seminar in Turkey:

“Net energy from fusion will be obtained in 2025, it will be available for the grid in 2030”.

Fusion energy, which has the potential to revolutionize the world energy system, was discussed at a special seminar entitled “Accelerating Fusion Energy and Innovation” organized by Sabancı University Istanbul International Center for Energy and Climate (IICEC).

The Director of the MIT Plasma Science and Fusion Center, which is leading the way in fusion science, Prof. Dr. Dennis G. Whyte stated that the processes of 20-30 years previously in fusion technology have now been reduced to 2-3 years with the innovative technology solutions they have developed. Saying that they have successfully completed the first two phases in their studies, Prof. Whyte explained their target of they obtaining net energy from fusion in 2025 and further deliver the energy to the grid in 2030.

Sabancı University Founding Chair of the Board of Trustees Güler Sabancı:
“Fusion technology is crucial for a clean energy future”

Sabancı University President Prof. Dr. Yusuf Leblebici:
“We are making the first promotion of fusion technology in Turkey”

Sabancı University IICEC Director Bora Şekip Güray:
“Competitive fusion could provide invaluable gains for net importer energy markets like Turkey”

Sabancı University Istanbul International Center for Energy and Climate (IICEC) continues to bring the latest developments in energy and climate to the country agenda with its pioneering analytical studies, reports and conferences. Within the scope of the conference series organized by IICEC

with the participation of the world's leading people, fusion energy, which has the potential to break newgrounds in the field of energy, was discussed at a special seminar.

The most important person in the science world in the field of plasma science and fusion

Within the scope of the seminar entitled "Accelerating Fusion Energy and Innovation", Professor Dr. Dennis G. Whyte, Director of the Massachusetts Institute of Technology (MIT) Plasma Science and Fusion Center, and one of the leading figures in the field of plasma science and fusion, visited Türkiye upon the special invitation of Güler Sabancı, the founding chair of the Sabancı University Board of Trustees, for a seminar organized by IICEC.

Managing the SPARC fusion project, which is a compact, advanced-technology, fusion energy solution, in collaboration with the private fusion startup Commonwealth Fusion Systems (CFS), a company whose mission is to provide fusion power to the world, Prof. Dr. Dennis G. Whyte talked about fusion energy, which is considered to be one of the most important energy solutions of the future together with the latest developments in fusion technology, the success factors of the technology they have developed, and their concrete goals for the near future, at the seminar held at The Seed, Sakıp Sabancı Museum.

A distinguished group of guests from the and energy and climate circles attended the special seminar where Prof. Dr. Dennis G. Whyte was a speaker. In 2018, Prof. Whyte received the Fusion Power Associates (FPA) Leadership Award, which is given to people who have pioneered in this field with highly innovative and much faster methods of producing fusion energy, and who have demonstrated outstanding leadership qualities in accelerating the development of fusion.

“Fusion technology is crucial for a clean energy future”

Sabancı University Founding Chair of the Board of Trustees, Güler Sabancı, who was the host of the event, emphasized that fusion energy technology is crucial for a clean energy future. Güler Sabancı stated that she closely follows fusion energy technology as she is a member of the Massachusetts Institute of Technology (MIT) Energy Initiative Advisory Board. Güler Sabancı expressed that she was glad the studies in this field were presented by Prof. Dr. Dennis G. Whyte, one of the world's leading scientists in this field, at an event hosted by IICEC.

“We are making the first promotion of fusion technology in Turkey”

In his speech at the seminar, Prof. Dr. Yusuf Leblebici, Sabancı University President, said, “As Sabancı University, we are promoting a very innovative technology in Turkey together with the Massachusetts Institute of Technology Energy Initiative, one of the world's leading universities. The fusion technology that Prof. Dennis Whyte presents us has the potential to radically change the energy future and development of humanity in the coming years.. It shows that a result that has been talked about for at least 50-60 years but could not be achieved is now very close to reality. The relationship established with Sabancı University Istanbul International Center for

Energy and Climate (IICEC) and MIT Energy Initiative has been continuing for years. I can say that it is the result of years of experience rather than being a new step for Sabancı University. Here, we also see what an important role the IICEC plays. We are happy to host an important person of the scientific world at the IICEC event and to be involved in the next studies”.

“Net energy from fusion will be obtained in 2025, it will be available to the grid in 2030”.

“Given the current situation and global developments, fusion is much closer than we previously thought. This means that we urgently need to develop technologies that highlight fusion as a commercial, viable energy solution to combat climate change and for energy security. Before our breakthrough inventions, fusion was expected to occur many years later. Now there are only four years to fusion. This also presents us with an important opportunity to apply this new energy source,” said MIT Plasma Science and Fusion Center Director Prof. Dr. Dennis G. Whyte. He shared the following comments about the importance of fusion and their studies:

“Governments, research institutions, scientists, the business world and private investors need to come together for fusion technology to truly materialize. It is important to transform the scientific development principles created by decades of public funding into innovative technical and organizational models. A great example of this is the recent emergence of the private fusion industry, with companies focusing on solutions to shorten the development time of fusion and produce an economically competitive product.

We, as MIT and its private sector partner, Commonwealth Fusion Systems, are realizing an important example of it. This plan brings the disruptive technology in superconducting magnets and the deep-rooted science of fusion to life with innovative collaboration models comprising scientists, academia, business, and investors to make a significant difference in tackling climate change.

“In the project we run at MIT, fusion energy is delivered to the grid and put into use in 4 phases. We performed the first phase, Alcator C-Mod, and completed the TFMC spiral phase in the second phase. We got a positive result from the test results we carried out on September 5, 2021. Now, in the third phase, SPARC facilities near Boston will be completed and put into service in 2025 to generate net energy directly. Finally, with the ARC phase, we aim to make fusion energy available to the grid.

“There are no longer periods of 20-30 years. We are talking about 2-3 years later. The old rules no longer apply. Now we are talking about a new horizon and the near future. Maybe we will talk about fusion energy in a very different way in the next 10 years. In this way, we will overcome many energy problems”.

"Competitive fusion could provide invaluable gains for net importer energy markets like Turkey”

Stating that IICEC continues to contribute to a more secure and cleaner energy future with the public-industry-academia success triangle model, IICEC Director Bora Şekip Güray stated that fusion technology has recently come increasingly to the fore in studies towards a secure and clean energy future. Stating that as Sabancı University IICEC, they are very pleased to host Professor Whyte, Director of the MIT Plasma Science and Fusion Center, who has signed a leading project with the technological solutions he has developed in this field, Güray added that the developments to be achieved in sustainable fusion solutions will be critical for the energy and climate future. As far as the factors of energy security, combating climate change and energy economy are concerned, Güray drew attention to the potential of fusion to transform global energy balances across all these factors, and stated that competitive fusion can also provide invaluable gains in the future for net-importer energy markets with growing energy demand such as Turkey .

About Prof. Dr. Dennis G. White Hakkında:

Dennis G. Whyte is the Hitachi America Professor of Engineering at MIT, and the Director of the MIT Plasma Science & Fusion Center. He has spent the last 35 years producing fusion energy, a clean energy source that has the potential to provide a monumental breakthrough in the battle against climate change. A recognized leader in fusion research, especially in the magnetic confinement of plasmas, Whyte has paved an innovative and faster path to producing fusion energy.

He leads the fusion project, SPARC — a compact, high-field, net fusion energy fusion device — in collaboration with private fusion startup Commonwealth Fusion Systems (CFS), a company whose mission is to provide fusion power to the world. The core of the SPARC project was formed over eight years ago during a design course led by Whyte to challenge assumptions in fusion. Many of the ideas underpinning the high-field approach — including the use of HTS for high-field, demountable magnets, liquid blankets, and ARC (a fusion power plant concept) — have been conceived of or significantly advanced in his design courses.

Whyte has over 300 publications, is a fellow of the American Physical Society, and has served on panels for the National Academies, the United States government, and the Royal Society. In 2018 Whyte received The Fusion Power Associates (FPA) Board of Directors Leadership Award which is given annually to individuals who have shown outstanding leadership qualities in accelerating the development of fusion. Whyte earned a BS from the University of Saskatchewan, and an MS and PhD from Université du Québec.