

## **Seeing the World in Higher Resolution: Looking Back on My ASEM-DUO Experience in Austria**

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In the second half of 2009, I studied at TU Graz in Austria through the ASEM-DUO programme. At that time, I was an undergraduate engineering student in Korea. I was interested in environmentally friendly technologies, sustainable development, and the role of engineering in society. I did not yet know where my career would lead me. I was not thinking about nuclear engineering as my future field, and I did not know that Vienna was home to the International Atomic Energy Agency (IAEA). Austria was, to me, simply a country that had left a strong impression on me.

My interest in Austria began before my exchange semester. In 2007, I visited Vienna as a backpacking traveler. One of the places I still remember most clearly is the Hundertwasser House. I did not have deep knowledge of architecture, but I was impressed by its colors, irregular forms, and the way it brought buildings, nature, and daily life together. It was very different from the urban buildings I was used to seeing. For a young engineering student, it was a memorable moment that showed me that technology, design, nature, and human life could be connected in a different way.

Later, when I had an opportunity to study abroad through the ASEM-DUO programme, Austria naturally came back to my mind. TU Graz was one of the partner universities connected with my home university, and the programme gave me a valuable opportunity to study in Europe. In my study plan at that time, I wrote that I wanted to learn about environmentally friendly development and management as an engineer. Looking back, I think I was already interested in understanding engineering in a broader context, beyond technical knowledge alone.

Among the courses I took at TU Graz, the one that remained most clearly in my memory was 'Ecological Process Evaluation'. The subject itself was close to what I had hoped to study. It was about evaluating engineering processes not only in terms of productivity or efficiency, but also in relation to their environmental impact. In one class, we discussed olive farming as a case study. Through that example, I could see that a single industry or production activity can have both economic value and environmental consequences. It helped me think of engineering as part of a larger system.

That course made me realize that technology does not exist only as technology. It is connected to environmental responsibility, social choices, and the way people live. This was not a dramatic realization at the time, but it stayed with me. It gave me an early sense that engineering problems should not be separated from the wider world around them.

Another thing I remember clearly was the atmosphere of the classroom. Students actively exchanged opinions, raised questions, and discussed issues from different perspectives. The class was not simply a place where the instructor delivered knowledge to the students. It was also a space where students participated in creating the discussion together. That was very impressive to me.

At that time, I was more familiar with an educational culture that emphasized correct answers, calculations, examinations, and technical accuracy. Of course, these are essential in engineering education. Engineers must be rigorous and precise. However, in Graz, I saw more clearly that engineering education could also include discussion, interpretation, communication, and the ability to

understand technical issues from social and environmental perspectives.

This impression has become more meaningful to me over time. During my exchange semester, I experienced it simply as a different classroom atmosphere. Now, as someone who teaches students, I often return to that memory. I think about how to help students move beyond passive learning. I think about how to create a classroom where they can ask questions, express their thoughts, discuss uncertainties, and connect technical knowledge to real situations.

This is especially important in nuclear engineering education. Nuclear engineering is a highly technical field. Students need to learn reactor physics, thermal-hydraulics, materials, safety systems, regulation, and many other difficult subjects. But nuclear safety is not maintained by technical knowledge alone. It also depends on people, procedures, organizations, communication, safety culture, and the ability to think critically under uncertainty. In this sense, education must train students not only to know the right equations, but also to understand the context in which engineering decisions are made.

My career did not follow exactly the environmental path I had imagined as an undergraduate student. After returning to Korea, I continued my studies and work in nuclear engineering. At first glance, this may seem different from my earlier interest in environmental issues and sustainable development. However, as I continued in the field, I came to understand that nuclear engineering is also deeply connected to energy, environment, safety, public trust, and society.

Energy technologies are never purely technical. They exist within social choices, policy debates, environmental concerns, and public expectations. Nuclear energy, in particular, requires engineers to think not only about how systems are designed and operated, but also about how safety is explained, how trust is built, and how future professionals are educated. The questions that interested me in 2009 did not disappear. They returned in another form.

In recent years, I have had more opportunities to visit Vienna through my work related to the IAEA, nuclear safety, and education. These visits have made me look back on my ASEM-DUO experience in Austria with a new perspective. When I first visited Vienna in 2007, and later studied in Graz in 2009, I had no idea that Austria would one day return to my professional life through nuclear safety, the IAEA, and education. That connection was not planned. It was not a direct path. Perhaps that is why it feels meaningful now.

When I visit Vienna today, I sometimes think about my younger self: the student who was impressed by the Hundertwasser House, who went to Graz through ASEM-DUO, who began to connect engineering with environmental questions, and who observed a different style of classroom discussion. At that time, those experiences were simply part of studying abroad. Now, they feel like early pieces of a wider view that I would later need in my career.

ASEM-DUO did not change my life in one dramatic moment. Instead, it gave me an experience whose meaning became clearer with time. It gave me a chance to step outside my familiar environment and see engineering from a different angle. It showed me that engineering is connected not only to technical problem-solving, but also to environment, society, communication, culture, and education.

I now believe that the value of an experience is not always visible immediately. A student may not know which city, course, conversation, or classroom atmosphere will remain in memory. Some experiences become meaningful only years later, after one's career and life have moved in unexpected directions. For me, my semester in Austria was such an experience.

As an educator, this realization is important. When I teach students, I hope to give them not only

knowledge, but also opportunities to widen their perspective. They may not understand the value of every experience immediately. They may not know how a lecture, a discussion, or a short stay abroad will influence them later. But such experiences can remain quietly in the background and return when they are needed.

Looking back, ASEM-DUO helped me see not only engineering, but also the world, in higher resolution. That is why my experience in Austria still feels meaningful to me today, even after many years. It did not give me a fixed destination, but it gave me a broader way of understanding technology, society, education, and myself. It slowly and quietly connected my early interest in the environment with my later work in nuclear safety and education. For that, I am deeply grateful to the ASEM-DUO programme. It gave me an opportunity that I could not fully understand at the time, but one that has continued to return to me with new meaning over the years. I hope that this programme will continue to give future students the same kind of opportunity: not only to study abroad, but also to discover perspectives that may guide them much later in life.