

Switching to sustainable energy in the Republic of Korea

The need to shift to renewable energy sources has never been more pressing. **A CONFERENCE IN SEOUL** looked at the challenges and benefits of energy transition in the Republic of Korea.

The energy sector is undergoing a revolution. Driven largely by the urgent need to cut greenhouse-gas emissions, countries around the world are racing to phase out fossil fuels by switching to renewable energy sources. This global revolution and what it means for the Republic of Korea were discussed at the Korea Energy Transition Conference 2018, which was hosted by the Korean Ministry of Trade, Industry and Energy (MOTIE) in Seoul on 4–5 October.

A dramatic policy shift The Republic of Korea knows it has a lot of catching up to do. The country has traditionally relied on cheap energy to power its renowned manufacturing industries, which has led to a dependence

on fossil fuels and nuclear power. But last year, the Moon Jae-in administration made a dramatic policy shift by embracing a transition to renewable energy sources. Determined to make up lost ground, it has set ambitious goals for adopting renewable energy — for example, raising use of renewable energy from 7% to 20% by 2030.

THE ECONOMIC BENEFITS OF AMBITIOUS CLIMATE MITIGATION OUTWEIGH ITS COSTS

The first of its kind for the country, the Korea Energy Transition Conference signalled that the government



Yunmo Sung, Minister of Trade, Industry, and Energy, believes energy transition will drive innovation.

is serious about energy transition. It gathered people who usually inhabit very different worlds — energy researchers, policy-makers, entrepreneurs and thought leaders, as well as government officials, and energy industry representatives. To spur discussion, all sessions concluded with a panel discussion in which the audience could also ask questions.

Learning from the leaders Three countries leading the way in energy transition — Germany, Denmark and Japan — were well represented at

the conference. In a keynote address, Peter Henricke of Germany, a board member at the European Environment Agency, highlighted two trends. The first was a paradigm shift to ‘efficiency first’, under which countries are not just switching to renewable energy sources; they are also seeking to improve energy efficiency and find ways to reduce demand. The second trend is the falling price of wind and solar energy — the two main renewable energy sources. Renewable energy is expected to become cheaper than nuclear and fossil fuel energy in the near future.

Henricke also emphasized



Peter Henricke says that Germany’s experience shows that energy transition can benefit the economy.



The conference was attended by over 1,000 delegates.



A bilateral discussion on energy transition was held between Korea and Germany.

that countries do not have to choose between economic growth and climate mitigation. Germany, which has gone from 6% renewable energy use in 2000 to 36% today and is aiming for 100% in 2050, has shown that the economic benefits of ambitious climate mitigation outweigh its costs. While jobs had been lost in conventional power industries, these were more than offset by jobs created in renewable energy industries. “Climate mitigation is a benefit, not a burden,” stated Henricke. “Ambitious climate policies can foster better growth.”

The Republic of Korea

shares a similar viewpoint on energy transition. Presiding over the dialogue with business leaders during the conference, Yunmo Sung, Minister of Trade, Industry, and Energy, said, “energy transition will go beyond just meeting the public’s desire for a safe and clean society; it has the potential to be a source of innovation and a driving force that creates new industries and jobs.”

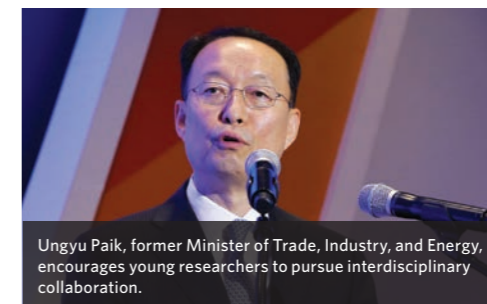
The importance of research Research is vital for creating and enhancing the technologies needed to realize energy transition. The second session was a forum jointly



Jinwoo Kim of Yonsei Institute of Convergence Technology gave the keynote speech for the first session.



Nicky Dean talks about the importance of energy research.



Ungyu Paik, former Minister of Trade, Industry, and Energy, encourages young researchers to pursue interdisciplinary collaboration.

organized by MOTIE and Nature Research in which the scientists at Korean research centres presented their latest results after a keynote talk by the chief editor of *Nature Energy*, Nicky Dean. It was a salient reminder that ‘big picture’ policy changes need to happen in tandem with advances in research. In his opening remarks, Ungyu Paik, the Republic of Korea’s former Minister of Trade, Industry, and Energy, commented, “I hope young researchers take active roles in pioneering uncharted areas through engaging in exchanges and interdisciplinary collaboration.”

Building a Northeast Asia energy network

The final session was devoted to a discussion of regional cooperation with a view to establishing a Northeast Asia energy network. A drawback with renewable energy is that levels fluctuate with local levels of sunlight and wind — not with demand. One way to smooth the supply–demand curve is to establish large energy-sharing networks that transcend national boundaries, so that high demand in one area can be met by power generated elsewhere in the network. Such networks have been established in almost every region except Northeast Asia — mainly due to political unease between North and South Korea, Japan and China. The session looked at ways to overcome these difficulties, such as establishing an energy cooperation mechanism and a common energy market in the region.

A timely reminder

A few days after the conference a report published by the Intergovernmental Panel on Climate Change provided a timely reminder of the urgency of energy transition. It outlined what is needed to limit the global temperature increase to 1.5 °C and predicted there could be some dire consequences even if this tough target is reached. There has never been a more pressing time to realize energy transition, and the Republic of Korea is keen to seize the opportunity. ■

