

A Roadmap for Expanding U.S.-ROK Alliance Cooperation: Climate Change

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ABSTRACT

The impacts of climate change in the 21st century will likely be wide-ranging and unpredictable, affecting the lives of billions of people through increased threats to public health, shifts in historic weather patterns, and changes in the availability and quality of energy, water and food supplies. The negative effects of climate change can be curtailed through two methods: mitigation—the reduction of greenhouse gases (GHG) emitted into the atmosphere, and adaptation—the adjustment of human behavior, habitats, and ecosystems to these changes. Although climate change is a global phenomenon, the strategies of mitigation and adaptation must be initiated and implemented at various spatial scales, from the local neighborhood up to the national and even international levels. In this chapter, the authors examine the current mitigation and adaptation strategies being implemented at multiple spatial scales in the U.S. and ROK and suggest areas that might best support cooperation for increased future success in combating climate change in both nations and beyond.

The U.S. has been successful in establishing a carbon market at the regional level. In an effort to increase the creation and implementation of mitigation policies at the state level, the U.S. Environmental Protection Agency (EPA) passed the State Climate and Energy Partnership Program in 2005. Best practices promoted through the partnership include: states developing their own clean energy plan, supporting local businesses and consumers with tax incentives, rebates and grants for renewable energy investments, establishing minimum energy efficiency requirements for residential and commercial buildings, and funding private sector development of technologies that reduce energy dependence. At the national and state level, many of the mitigation policies being proposed and implemented focus attention on the regulation of and technological advances in vehicle fuel efficiency and fuel carbon content. In order to realize climate stabilization, the U.S. must bring carbon dioxide emission levels to 33 percent below 1990 levels by 2030 to be on a path to a carbon dioxide reduction of 60 to 80 percent by 2050. Efforts to reduce vehicle GHG emissions focus on dual objectives, reducing the overall number of vehicle miles traveled and increasing the percentage of those miles that are fueled by renewable sources, such as biofuels, electricity, solar power and hydrogen.

Adaptation strategies include maintaining the urban forest in order to cool buildings and sidewalks and sequester carbon and the provisioning of alternative sources of energy. Specific U.S. examples of the implementation of climate change adaptation policies include: the support of planning policies that prioritize and foster local food production and consumption, zoning regulations to protect new coastal tourist developments, a weatherization program to reduce home

energy use and increase structural resilience to storms for low income families, requirements for new developments to preserve and utilize local sources of renewable energy, and renewed enforcement of building and urban design requirements that minimize energy consumption while retaining heating and cooling capability.

In 2002, the U.S. and ROK established a cooperative relationship utilizing the structure established by the United Nations Framework Convention on Climate Change (UNFCCC). The dialogue between the two countries focused on increasing clean and renewable sources of energy, improving efficiency and conservation, advancing renewable technology and implementation, capturing and utilizing heat waste and methane emissions from landfills, and monitoring and measuring climate change in the Pacific Rim.

The ROK government established the Climate Change Committee (CCC) in 1998 and implemented four action plans. During the first three action plan periods, CCC established foundations in climate change policies and R&D in mitigation technology, and assessed the Kyoto mechanism, focused on mitigation strategies including GHG reduction strategies, GHG mitigation policies, public participation, and climate adaptation strategies. Under the 4th national action plan, the two central adaptation strategies are: 1) to strengthen capacity by increasing the role of local government and by nationwide public campaigning and 2) to establish and implement a sectoral adaptation plan. In July 2009, the ROK announced a “Five-Year Green Growth Plan (5YGGP)” for implementing green growth. Since the initiation of 5YGGP, many green industries that produce wind power turbine, solar battery, and LED have seen increases in their revenues. The development of renewable energy is also an important part of the 5YGGP. By 2013, when the 5YGGP ends, ROK anticipates to be one of four leading countries along with the U.S., Germany, and Japan.

Areas of future U.S.-ROK cooperation on climate change should include strong incentives to curb carbon emissions through tax credits for consumers and producers, expansion of safe and convenient public transportation systems, investment in alternative forms of renewable energy, compact, dense, and livable urban development, and reforestation. As the bilateral relationship between the U.S. and ROK continues to develop and strengthen, open dialogue between business and government will be crucial to ensure that policy meets both climate security and economic security goals in both countries and beyond. Incorporating representatives from business and industry in future U.S.-ROK climate change agreements will be essential for realizing the potential for joint development and deployment of energy technology. Private sector involvement will also help encourage expanded emissions monitoring and reporting, and support the implementation of successful, cost-effective cap-and-trade markets. Finally, U.S.-ROK bilateral policy decisions should include transparent and consistent goals with realistic timelines for completion and robust sources of funding to guarantee policy implementation and project completion.