Policy suggestion delivered by conference on APEC green energy finance

To cope with the dual challenges of climate change and energy security, green energy, especially renewable energy, has been experiencing dramatic growth in the last decade. Recent reports show that global investment in renewable energy increased fivefold during 2004 to 2010, and has remained robust since then. Going forward, investment in energy efficiency will become increasingly important. IEA projections have indicated that green finance for energy efficiency would need to be nearly three-times higher than renewable energy by 2040 in order to meet climate change objectives consistent with a 2 degree scenario.

The 2016 investment in renewables and energy efficiency was steady at nearly USD 550 billion in 2016 compared with 2015, according to IEA *World Energy Investment*. Nevertheless, barriers of green energy finance remain in multiple aspects. Tracing to the source, energy efficiency has wide range of technology and measures which makes it an extremely heterogeneous sector with varying particularities that affects the investment cycle from the assessment to financing and monitoring of the projects. Moreover, energy efficiency projects are typically small-scale in nature, and are not the typical investment size required by the capital market. Uncertain policy and lack of suitable financial vehicle also raise the barrier to financing renewable energy. Uncertain policy and lack of attractively priced long-term debt also remain barriers to financing renewable energy, particularly in emerging market economies.

Under APEC Green Energy Finance Initiative, this conference, convening stakeholders from energy and finance fields in the APEC region, has the consensus to facilitate green energy finance and to accelerate capital flows in renewable energy and energy efficiency projects in the future. Various recommendations have been proposed and summarized in four key aspects: 1. Institutionalized reform, 2. System improvement, 3. Human resource development, 4. International cooperation.

1.Institutionalized Reform

(1) For purpose of facilitating operational efficiency, promoting green energy policy integration, and decreasing the financial cost and risk from policy uncertainty, policy makers are first encouraged to form sound, transparent and flexible investment-grade policy framework that includes longer-term energy policy roadmap, regulatory framework and implementation measures.

(2) In markets where risks to private sector development and the cost of capital remain elevated, ①mobilize private capital by providing diverse financial tools such as guarantee, bond or co-financing/investing to share the risks and lower the cost of capital; ②support green energy finance industry by streamlining technical and financial services.

(3) It is encouraged to accelerate the deployment of green energy in infrastructure, especially in transportation, buildings, smart grids and etc, and to value the importance of holistic and integrated planning for low carbon development at communities and municipal levels.

(4) Government can launch micro-finance targeted for green energy projects of disadvantaged groups to improve energy access and to alleviate energy poverty.

2.System Improvement

(1) To improve market environment for green energy finance, it is encouraged to develop rating system, credit rating system, dispute settlement and risk management tools for green energy finance business among financial institutions.

(2) In order to promote market transparency and data availability, it is encouraged to establish green energy finance project sharing mechanism to share information, such as project sources and scales, major technical contents, cost control, risk monitoring and management, and project performance, in a standardized manner.

(3) It is encouraged to formulate standard operation procedure to enhance finance practitioners' capabilities to take into account energy efficiency and other green energy aspects in mortgage and loan authorization, risk management and capital management in a systematic manner.

(4) Promoting green energy demonstration projects can help explore innovative green energy business model, disseminate new financing tools and models, and facilitate the design of localized green energy finance framework.

(5)The adoption of Environmental, Social and Corporate Governance(ESG) and Social Responsible Investment(SRI) should be disseminated and stronger binding principles should be pursued.

(6) Large enterprises' can team up with the SMEs in their supply chains in terms of energy target setting and energy audit. As such they, as well as other actors (such as industry associations, utilities etc.) can serve as an effective platform to cluster SMEs together in a peer-to-peer business network.

3.Human Resource Development

(1) It is encouraged to develop policy makers' capacity in understanding long-term green energy development trends and timely adjustment of policy direction if necessary.
(2) It is encouraged to enhance the capabilities of policy makers in financial analysis in order to design green energy policies that stimulate green energy investment.
(3)It is encouraged to develop financial institutions' capacity in understanding green energy and development of specialized products and services to scale up financing of green energy.
(4) It is encouraged to reduce information asymmetry among stakeholders and to enhance their capacity in participating in green energy projects by providing targeted experience sharing and training sessions.

4.International cooperation

(1) Many important international organizations and forums, such as ASEAN, G20, IEA, IPEEC, and OECD endeavor on promoting green energy finance. Under the framework of APEC, it is encouraged to pursue cross fora cooperation with other international organizations to enhance synergy on green energy finance issues among all policy bodies of APEC to jointly achieve APEC's ambitious energy intensity reduction and renewable energy doubling goal.
(2) It is encouraged to expedite best practice sharing to shorten the learning curves of each economy and to facilitate green energy finance.