

# **Asian Shadow Financial Regulatory Committee<sup>1</sup>**

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## ***Greening Growth***

### **Introduction**

Global climate change is the most pressing issue confronting sustainable development. However, global warming can be mitigated only with political commitment, technological innovation, massive investments, global financing, and international coordination. Nations must develop and coordinate effective mechanisms that confront the distinctive characteristics of green investments: widespread externalities, high uncertainty, long time horizons and exposure to government regulation.

The cost of cleaning up the environment is borne by the investing company and its nation, but its benefits are shared amongst its own citizens, and perhaps those of neighboring nations. Similarly, the cost of cleaning up the environment is borne by the current generation, but its benefits are shared with future generations. Most green projects take a long time to mature and are exposed to technological risk and changes in government regulations, which can increase the commercial value of green ventures but harm incumbent firms.

Of course, some green investments are profitable in their own right and thus would be undertaken by the market without major government initiatives or regulatory intervention. These investments generate genuine commercial as well as environmental benefits. They require innovative, albeit currently feasible, technology and have a short payoff period. Nevertheless, governments can facilitate these green projects by creating a conducive environment.

The fact is, however, that many green investments exhibit severe externalities and a private return lower than the cost of capital. Many of these investments require complex new technologies, have a long payoff period, and face very uncertain regulatory changes. They are unlikely to be undertaken on the basis of purely commercial considerations, so governments must play a role. Governments should

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support private sector participation, for example, with co-financing and market-based mechanisms that shift the bulk of the risk to private investors. Governments can also cooperate with each other via market-based mechanisms. The advantage of this approach is that governments have longer time horizons than private citizens, already internalize externalities amongst their citizenry and can internalize international externalities via negotiations that involve only a few parties, keeping transaction costs low. Two examples of this approach follow.

### **Mutual Green Funds (MGF)**

Surplus countries could direct their sovereign wealth funds (SWF) to work together to set up mutual funds that invest in green technologies. While an individual SWF would be reluctant to incur the cost of a project that can be justified only by taking account of the external benefits to other countries, it might be more willing if it shared the costs with many other SWFs. Put differently, a MGF could undertake more socially worthwhile projects because it would internalize many of the external benefits of green investments.

Each MGF could build up expertise in evaluating and commercializing green technologies; its members could channel the technologies developed into their own countries via licensing. By contributing to a variety of MGF, each SWF could diversify across many risky projects. The various green funds would be competing for investment by offering promising projects, attractive terms for sharing risk and reward and good governance mechanisms, yet consortia of SWFs would be cooperating within each MGF. Such international “co-opetition” might be the most realistic way forward on the global environment.

### **Long-dated Options**

Recently, some OPEC countries requested compensation for deferring their extraction of oil to alleviate global warming. They argued that they need a flow of funds for economic development; if they are to defer the extraction of oil for the sake of mankind, then mankind should compensate them. This proposal is a non-starter, so long as it is couched as a demand for compensation for doing nothing. But it could be workable if viewed as a premium payment in the market for long-dated options on oil, where sovereign governments would be major participants.

Today, China and other major oil importers are bidding for oil resources around the world to insure themselves against future scarcity and price rises. This exposes them to huge political risk. They could achieve the same objective by buying long-dated call options on oil. Oil producers could sell them such options on the basis of their current known oil reserves. The option premium would provide them immediate income, but they would have to keep some oil in the ground in order to hedge against the calls being exercised. In other words, the market for long-dated options on oil can give them precisely what they wanted.

An option market that involves sovereign countries can trade options with a longer maturity because countries operate on longer time horizons than private citizens and have ways to reassure counter-parties that are not available to private citizens, for example, by pledging their reserves. By providing an opportunity for oil consumers and oil producers to thus trade risk over long time horizons, sovereign options could

improve long-term resource allocation and alleviate global warming by shifting some production to the future.

## **Conclusion**

Asia is home to countries whose rapid growth has been, to some extent, at the expense of the environment. However, there need not be a tradeoff between growth and the environment. Although Asia needs strong growth in order to continue to raise incomes and living standards, such growth has to be environmentally sustainable. Developed countries have been at the forefront in addressing these issues, while Asia's response has lagged. This may reflect the perception that it is politically acceptable to place growth above the environment.

The immediate response to climate change in Asia must be centered on investment in clean technologies, access to adequate funding and the adoption of regulations that promote green innovation and finance. Asia must transform its capital markets to meet these new challenges. Financial markets must be deepened and widened and new expertise injected into green finance, private equity, venture capital, and associated financial services. Governments also need to review laws and regulations to support green growth.

In the past two decades, Asian countries have accumulated a substantial amount of wealth, reflected in their vast holdings of foreign reserves, invested mostly in low-yielding US Treasuries. We have proposed two ways to use these reserves constructively to alleviate climate change, namely, to support mutual green funds and long-dated options. Both require political leadership and consensus.