# *SCALING UP PRIVATE INVESTMENT FOR LOW CARBON ENERGY TRANSITION: THE ROLE OF REGIONAL SOLUTION*

Venkatcahlam Anbumozhi, Economic Research Institute for ASEAN and East Asia, Phone: +62.811.910.6874, Email: v.anbumozhi@era.org

## Overview

The Paris Agreement went in force in November 2016, after 55 countries representing more than 60 percent of global Green House Gas (GHG) emissions ratified their commitments to keep global warming below 2$^{o}$ C. Under the Paris Agreement, ASEAN and East Asian countries have committed to reduce annual emissions from 20 % – 65% by 2030. Collectively this represent a 46 percent reduction from 2005 levels for the 16 East Asia Summit (EAS) countries. The Nationally Determined Contributions (NDC) under the Paris Agreement foreshowed a new level of engagement on low –carbon energy investment. Achieving NDC targets will require very large reductions in energy related carbon emissions. This can be realized both by accelerated investments in low-carbon energy systems and by retrofitting of retiring inefficient energy infrastructure. Mission innovation – a commitment made by 21 advanced member countries, in lieu of Paris summit, to doubling the investment in low carbon energy innovation by 2020 is a positive development. This and other breakthroughs such as Solar Alliance by more than 121 countries to triple their renewable energy uptake, very much depends on rapid diffusion of finance that are integrally linked with feedback loops embedded in economic markets. The objective of the paper is to review the state of low carbon investment in the region and provides a critical analyses of low-carbon financial initiatives and the mechanisms, being practiced in developing and emerging economies of Asia. This paper hypothesis that despite the presence of several incentive schemes, private investment into low carbon energy systems is constrained by several barriers, and policy makers can enhance the investment by regional cooperation. Based on the review and the current opportunities available within the framework conditions of Association of South East Asian Nations (ASEAN) economic community (AEC), it proposes four interrelated regional solutions as a means to accelerate low carbon investment at national level. Finally it discusses the implementation outlook of the transition fund and other associated solutions.

## Methods

Fig 1 presents a conceptual framework for measuring low- carbon investment adopted for this chapter.

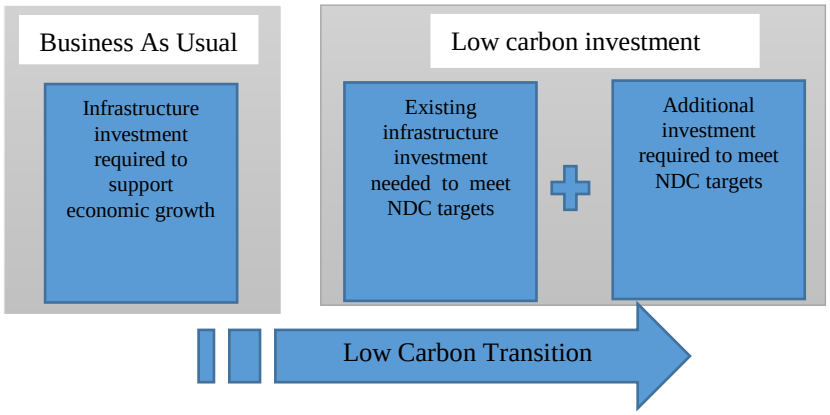


Fig 1. Analttical framework used for estimating investment flows and barriers to low –carbon energy transition

The frame work of the assessment include investment required from different sources to support economic growth, growing population needs and required industrial output under present conditions. A sub-set of this Business As Usual (BAU) investments need to be made low carbon to ensure that Nationally Determined Contributions (NDC) targets are met. In addition to investment for growth, additional investment is needed beyond BAU spending in order for low-carbon technology deployment to meet the NDC targets. The combination of low carbon BAU investment and investment needed for low carbon technologies comprise the total investment needed. The barriers to the

investments are analysed through a market survey conducted with investment community – both on the supply side financial instutions and demand side project developers.

## Results

It is estimates that these incremental costs of achieving NDC targets by absorbing selected low -carbon technologies are economically viable for emerging economies of ASEAN, China and India. The corresponding predicted energy savings will more than compensate for the higher investment needs in the transition to low-carbon energy sector. Between 2016 and 2040, even when applying a 10% discount rate to savings from reduced demand for coal, gas and oil, they forecasts a net saving of about US$ 5 trillion over the period, indicating that low-carbon investments are clearly affordable for ASEAN member states. Break down of the FDI flows by the country indicates that direct private investments in energy sector could increase by 15% in 2020 to $515 billion, as on improved economic outlook in major ASEAN economies is likely to boost investor confidence in low-carbon sector (WIR, 2017). In major recipients such as China, India and Indonesia, renewed policy efforts to attract further investment in energy efficiency and renewable energy could contribute to increase in future outflows. Several countries are expected to strengthen their position in economic integration and thus increased private capital movement from the advanced economies to Asia. On the other hand, new investment restrictions and regulations are also increasing, which largely reflect foreign ownership of strategic industries including energy which is also related to national security and the competiveness of local financial industry. Between 2011-2015, there are 21 new non-tariff measures in ASEAN member states They manifest not only in new legislation on investment, but also in administrative decisions of key ministries such as energy (Anbumozhi et al, 2017).

Financing low carbon energy transition require significant reconfiguration of current and future investment, with further incremental costs on technology deployment that need to be financed. Given the fact that public finance is limited, private finance becomes the core of the transition. On the other hand, private investment in low carbon technologies faces a number of risks, including the following.(i) Policy risks, which entail regulatory changes such as those to feed-in-tariffs or fossil fuel subsidies that can later a low carbon energy project's economic viability, (ii) Operational risks, which are intrinsically related to the low-carbon technology in question. These range from performance related risks, where revenues might be lower than expected, to risks resulting from the lack of or unreliable supporting infrastructure, such as decentralized energy networks (iii) Capacity risks, refer particularly to development assistance and aid, where institutions and governments are unable to ensure funding is disbursed to projects and utilized and (iv) Political risks include changes in governments that affect the legal systems, and the risk of civil unrest, frequent occurrence of natural disasters etc (ERIA, 2012)

## Conclusions

The challenge of meeting low carbon investment targets set out in NDCs still stands high in all the ASEAN countries as well as China and India. Indeed, meeting the private investments needed in renewable energy technology, transport, energy efficiency have their own existing challenges – which varies country to country. As trade, fiscal, investment, energy and climate sub-systems tend to be interlocked, transformative change needed in one system will have repercussions on others at regional level. The mass deployment of renewable energy and energy efficiency at regional level will be cost effective, but require a whole other sets of policy reforms and market mechanisms at national level. There is also another important difference in attracting investments at local level and regional level, as new business and financial models are possible. Normally, governments will try to implement the required low-carbon policies in such a way that they enhance productive, competiveness and employment potential of its domestic industries. Thus benefits vest almost exclusively in the implementing country and the costs are borne by others. When it comes to open regionalism, the domestic investment costs could be lowered by pioneering countries collectively develop solutions for reaching NDC targets and their industries will allow other countries to solve their problems through coordinated approach. Hence, policy makers need to ponder the effects of individual country actions to regionally coordinated solutions. Currently, such spill over from national policies to low carbon investments is happening unintentionally. To accelerate the region wide diffusion of low carbon solutions, more international cooperation is needed. In this section, four propositions are presented as regionally coordinated solutions. (i) Regional low-carbon transition fund (ii) Financial performance warranty program (iii) Best regulations for low-carbon economy program and (iv) High quality infrastructure program

### References

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