

## **Post-2020 Mitigation for Thailand and the Road Ahead**

With the implementation of INDCs expected to come into effect in 2015, Thailand is at the cross-roads of forging ahead with its Post-2020 mitigation pledges. The research work looks at the essential greenhouse gas (GHG) emitting sector of Thailand, which is the energy use sector, and tries to assess the mitigation pledge that may be fair with respect to the shared responsibility to the world and also impartial with respect to the burden that the Thai people may have to share. For all this, the starting point should be the credible assessment of what the medium to long term future is going to look like in terms of GHG emissions from the energy use sector of Thailand. This research study considers the time period of 2010 to 2030, and uses the AIM Enduse model, which is a recursive dynamic optimization model, with bottom-up feature. The energy use sector in Thailand is further divided into five primary sub-sectors, which are power, industrial, residential, and commercial and transport sectors. Each sub-sector is modeled individually and soft-linked where the electricity demand from demand sectors (residential, commercial, transport and industrial) is given as an input into the power sector model.

Results show that assuming a reasonable frozen efficiency scenario, with no drastic measures, the GHG emissions in the Business as Usual (BAU) case rise up to 497 Mt-CO<sub>2</sub>eq, with an annual average growth rate (AAGR) of 4.11% from 2010 to 2030. A preliminary counter-measure (CM) scenario is devised incorporating already existing plans, or technologies and devices which are gaining traction in real life, and which ideally would mitigate GHGs. Already existing governmental plans in the case of Renewable Energy (RE) in the power sector, Energy Efficiency (EE) in the industrial and commercial building sectors, and modal shift to public transport in the transport sector are considered in the CM scenario. A mitigation of approximately 12% is to be expected in the CM scenario in 2030, when compared to the BAU case. In the year 2030, approximately 39% and 40% mitigation is contributed by the power and transport sectors respectively, and approximately 20% is contributed by the industrial sector. The rest is contributed by the residential and commercial sectors. This preliminary analysis shows the minimum mitigation potential that may be expected of Thailand by the international community, and the road ahead to getting there eventually.