The Renewable Energy Revolution

Socio-economic multipliers will bring greater national benefits

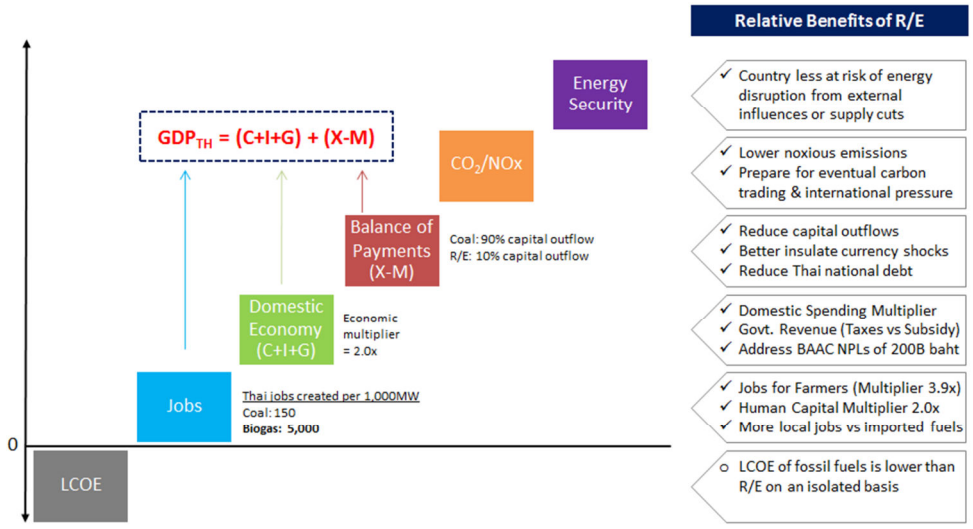
By Dominic Arena, Jaap Kalkman, Adit Harinasuta

Thailand is a net importer of primary energy in the form of coal, crude oil and natural gas, and in 2014 also imported electricity of around 12TWh, equal to 7% of total power generation. As a result of being a net importer, the Kingdom is subject to international market forces, external shocks and supply risks to serve its growing demand for electricity which has been rising at around 5-6% per year over the past two decades and forecast to continue at around 4-5% per year.

But being at the mercy of international markets and suppliers for Thailand's energy is not the only concern for the country. A core issue often not discussed in the fossil-fuel-versus-renewable-energy debate is the fact that each year, importing non-renewable primary energy such as coal, crude and gas results in a capital outflow of USD 36 Billion, or around 1.2 Trillion Thai Baht. This is equal to almost 20,000 Thai Baht for every Thai citizen, and it is money flowing outside of the country with almost no domestic socio-economic benefits to be seen compared with renewable energy such as biogas (using energy crop such as napier grass), biomass (waste to energy), wind, solar or even ethanol (produced from domestic cassava, corn or molasses from sugar cane).

It is readily acknowledged by many analysts that fossil fuels such as coal and natural gas produce electricity at 30-50% lower direct cost per unit than renewable energy such as biomass, biogas, or solar, however often the so-called 'cost-benefit' ends at the rudimentary comparison of direct production cost, or levelized cost of electricity (LCOE). This has been seen recently in Thailand with a brief and prematurely aborted debate on the Power Development Plan (PDP) 2015 and new coal fired generation investments in which direct LCOE or Feed in Tariff (FiT) were used as the primary argument in favour of coal and against a greater renewable contribution beyond the 20% limit set in the PDP. On the contrary, in actuality there are a host of other socio-economic benefits which are not being discussed and which can, in our unequivocal view, shift the balance in favour of higher contribution by renewable technologies when they are fully accounted on a national cost-benefit basis.

Figure 1: Relative Cost Benefit factors of Renewable Energy (R/E) vs Fossil Fuels for Power Generation



As shown in the diagram above, the direct cost of production (LCOE), which translates into the direct price of buying the power into the national grid, is one of only 6 important factors which must be addressed in order to fully compare any two energy sources and power generation methods for the country. In fact, as is clear from the diagram, LCOE is the *only single factor* which is in favour of imported fossil fuels such as coal. The remaining 5 factors are all unequivocally in favour of renewable energy as the best choice for meeting Thailand's future energy demands and at the same time resolving many structural domestic socio-economic issues such as uneven income distribution, famers' non performing loans (NPLs), jobs growth, currency depreciation and national energy security.

So far such a holistic and quantitative analysis of the immediate and long term benefits to Thailand's society and economy have not been undertaken, which means an informed debate and appropriate consideration has not been possible to make critical investment decisions and setting PDP limits. In our view, the choice for Thailand's energy development is clear, and that is to choose to consider increasing and accelerating the contribution of renewable energy in the PDP through a transparent, quantitative and holistic cost benefit analysis which fully accounts for the 6 socio-economic factors highlighted by expert research. In doing so, Thailand has the opportunity to address multiple socio-economic issues at the same time and provide for long term energy security and economic prosperity.

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