

The market for renewable energy solutions is expected to boom in the near future. By implementing feasible projects now, local manufacturers would be wise to pay attention to this growing market and take advantage of business opportunities and lower energy costs.

Several key factors already exist that make using abundant renewable energy resources to produce energy a sound business decision:

- RE resources are relatively no or low cost fuels – Processing industries, such as palm oil mills and sawmills, have ready and abundant waste products that require disposal. On-site energy production helps avoid transportation costs and provides direct savings for the company.
- RE energy technologies are very competitive – Due to escalating oil prices, RE equipment is even more cost effective despite initial higher expenditures. And local manufacturers already assemble and install quality biomass and solar energy equipment.
- RE projects will save money in the long-term – A comparison of fuel costs reveals that RE reduces operational costs and lowers the overall cost for energy production. Over the lifetime of RE equipment, the savings on fuel expenditures pays back the cost on investments.
- RE turns biomass waste into profits – Government programmes offer local industries a chance to invest in RE and arrange power purchase agreements and low financing to limit risk and raise revenue.

Biomass projects are viable in Malaysia. Commercial interests can choose several options to achieve overall savings and expand opportunities that capitalize on RE resources:

Option 1: *Change from fossil fuels to cheaper biomass fuels.*

- Most factories use oil-fired boilers. Changing to biomass fuels decreases the cost of steam generation and is cheaper by a factor of three. A typical system requiring 10 tons per hour has an initial investment of RM 2.3 million; whereas, savings from lower fuel costs are expected to be RM 300,000 per month. Thus, the recovery rate of investment is achieved within the first year.

Option 2: *Connect existing co-generation plants at palm oil mills to the grid.*

- Most mills already produce both steam and electricity, but not enough of the latter to generate enough power for their own consumption. Connecting to the electric grid allows mills to produce more power without waste because excess energy is sold. With co-generation plants already in place, it's possible to reap RM 850,000 per annum after an investment of RM 1.5 million to connect to the grid (assuming close proximity). Hence, recouping costs in just two years.[SOURCE: RE A Public Sector Initiative Brochure, PTM, p. 9]

Option 3: *Take advantage of new biomass technologies in the wood processing industry.*

- Replacing diesel generators with biomass boilers and steam turbines not only reduces energy costs, but also utilises a steady supply of waste material. Comparative costs indicate that electricity produced by diesel is 2.5 times more than biomass.

Option 4: *Harness the sun's energy and install solar thermal heaters in commercial buildings.*

- Hotels, schools and other institutions consume large amounts of hot water. Changing existing electrical heaters with solar replacements leads to substantial energy savings. The capital cost of installing solar heaters is RM 50,000 – five times more than an electric heater.

However, running electric heaters costs RM 1200 per month, so investment in solar technology is recovered in less than four years.