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**Energy
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Lowest Hanging Fruit**

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Energy Efficiency is the Lowest Hanging Fruit

By : Gregers Reimann (IEN Consultant Sdn Bhd)

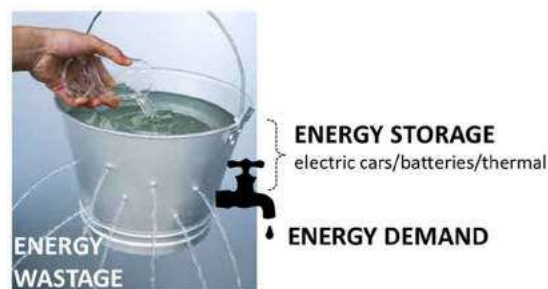


YB Yeo Bee Yin at the National Energy Awards (1st August 2019)

At her keynote address at the recent National Energy Awards 2019, the Minister of Energy, Science, Technology, Environment and Climate Change (MESTECC), YB Yeo Bee Yin, stated that “energy efficiency is the lowest hanging fruit”. It was encouraging that the minister hereby shed light on the importance of energy efficiency, as it often plays second fiddle to renewable energy. Energy efficiency does not have the same appeal as renewable energy, it is less visible than, say, a big solar panel installation. However, in terms of the economic rate of return, energy efficiency is the more attractive option, or as the minister formulated it “the lowest hanging fruit”. So, while Malaysia has set an ambitious target of getting 20% of its electricity from renewable energy, the energy efficiency targets should be pushed equally – if not more – aggressively. Besides, nation-wide implementation of energy efficiency will reduce the overall electricity consumption, and hence make it easier to achieve the 20% renewable energy target.

A good way to illustrate the relationship between energy efficiency and renewable energy is by using the leaky bucket analogy. The bucket represents the national energy system. Energy consumption is represented by water drawn from the tap, whereas energy wastages is depicted by holes in the bucket. The energy supply is represented by pouring water into the bucket.

ENERGY SUPPLY
(renewable) energy



Energy Systems / Buildings are like a leaky bucket. First step is to plug the holes (energy efficiency)

While the constantly growing demand can be met by keep pouring more and more water into the bucket, the more sensible approach, also economically, is to start by plugging the holes, in other words, to implement energy efficiency measures.

For the building sector, the International Energy Agency (IEA) found that 80% of the economically attractive energy savings are never implemented. For the Malaysian building sector, significant and economically attractive energy saving potentials exist both the residential and the commercial building sector¹. So, why are these energy efficiency potentials not realized? One of the core problems is lack of awareness among builders, buyers and tenants alike. Energy efficiency is usually not part of the equation in the building sector in Malaysia. Buyers and tenants do not demand for energy efficiency, and hence, developers do not deliver it.

Mandatory energy labelling of buildings in Malaysia will help to bring energy efficiency to the forefront. Following

¹ Study by Danida for the Malaysian government

the same logic of the existing Malaysian 5-star energy rating household appliance such as air-conditioners and refrigerators, an energy label for buildings will inform the buyer/tenant up front about the building's monthly energy bill, hence, becoming one of the determining factors at the point of purchase/lease.

Another benefit of mandatory energy labelling of buildings is that it will make building owners more willing to invest in energy efficient building retrofits because the investment will improve the energy label, and hence, add value to the property at the point of sale/lease. In other words, spending money on an energy efficiency retrofit will not be a waste of money, because the expense is recuperated through a higher sales/rental price.

Mandatory energy labelling of buildings has already been a reality for more than ten years in the European Union, where the Energy Performance of Buildings Directive (EPBD) requires that buildings offered for sale or rent shall include the building energy label in the advertisement, as illustrated in the screendumps below from an online real estate agency in Denmark. One of the search criteria is "Energy", following the European energy rating scale, namely from energy rating A (most energy efficient) to energy rating G (least energy efficient).



The energy label is one of the search parameters on the real estate company Nybolig in Denmark (Jan 2020)

Below is a screendump for one of the energy efficient apartment listings, where the energy label "A" is displayed at the bottom, or rather "A2020", which means that the building energy rating is "A" according to the 2020 building code.



The energy label is one of the search parameters on the real estate company Nybolig in Denmark

Malaysia has already taken an important step towards energy labelling of buildings. The Malaysian government should be lauded by taking the lead, namely by requiring the government building to undergo mandatory energy labelling. The scheme is first being rolled out for office



The MESTECC energy label for office buildings

buildings, while more complex buildings, such as government hospitals, will follow.

The Malaysian governments effort to push for mandatory energy labelling for government buildings should be lauded and encouraged – and eventually legislated - on a national scale.

Such initiatives should go hand in hand with mandatory green building certification that go beyond the narrow focus on energy efficient by also setting targets for occupant health and well-being. The Malaysian buildings have lots of potential for improvements, so let us follow the advice of the minister and start plucking the "lowest hanging fruits" through a concerted effort improving the energy efficient standards.



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Gregers Reimann specializes in energy efficient and green building design with excellent indoor environment. His green building consultancy pursues innovative and integrated design solutions bridging the gap between architects and engineers. In addition to green building consultancy, Gregers regularly contributes to green building articles and frequently lectures at universities.