

## ECONOMIC TRANSFORMATION PROGRAMME



## Bright future for LED industry

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Light emitting diodes kinder to the environment as well

**T**HE move by the Malaysian Government to phase out the use of incandescent lights or "round bulbs" is seen as a positive move by many, not only for its environmental significance but also the business benefits for manufacturers of light emitting diodes (LEDs).

In March 2010, Energy, Green Technology and Water Minister Datuk Seri Peter Chin Fah Kui announced that the government would phase out the use of such lights in stages leading to a complete ban in 2014.

The Government will stop import and sale of the bulbs by that date as part of efforts to save power. Traditional light bulbs, also called incandescent light bulbs, are considered less energy-efficient and, as a result, not as environmentally-friendly as compact fluorescent lamps, fluorescent tubes and LEDs.

Chin said the use of these bulbs would help reduce carbon dioxide emissions by 732,000 tonnes a year.

"The policy will enable the use of energy more effectively and wisely as users will be encouraged to use compact fluorescent lamp (CFL) and LED," he was quoted as saying in previous reports, adding that the move was also part of the Government's commitment to reduce carbon intensity by about 40% by 2020.

The Department of Standards Malaysia (Standards Malaysia), an agency under the Ministry of Science, Technology and Innovation, has adopted accelerated timeframes to hasten the adoption process of these LED standards in response to the impending policy changes.

Standards Malaysia, through its technical committee, has been able to fast-track the development of 12 Malaysian Standard (MS) related to LED based on the new timelines. The MS is expected to ensure the quality of local LED products is suitable for both export and domestic use.

"A total of 12 Malaysian Standards (MS) have been published covering the safety, testing and performance of LEDs. All 12 standards developed related to the LED lights were adopted from the available international standards from the International Electrotechnical Commission," says Standards Malaysia director-general Fadilah Baharin.

These standards were developed based on the accelerated timelines agreed at the Strategic Reform Initiatives (SRI) lab under Competition, Standards and Liberalisation (CSL).

"The importance of developing new standards at a step-up pace reflects the importance that the Government placed, under the SRI, on the use of international best practices and the adoption of international standards to build a strong and competitive economy," says Performance Management and Delivery Unit (Pemandu) director of Competition, Standards and Liberalisation (strategic reform initiatives) Dr Sarinder Kumari.

Fadilah also added that currently, the standards are "not mandatory but



**Fadilah:** 'Currently, the standards are not mandatory but encouraged.'

highly encouraged."

"Before the regulators can make it mandatory, they need to ensure that industry is ready and the necessary testing facilities are in place or regulators have decided to recognise the Asia Pacific Laboratory Accreditation Cooperation (APLAC) Mutual Recognition Arrangement (MRA) signatories."

The APLAC is a cooperation of accreditation bodies in the Asia Pacific region that accredit laboratories, certification bodies, inspection bodies and reference material producers.

"However, standards are regulated on the aspect of public health and safety to ensure that manufacturers meet the specifications."

Sarinder points out that by using these standards, manufacturers can benchmark against established global specifications that will ensure the quality and reliability of the LED lights meets with international export requirements. "Compliance to MS will enhance initiatives to increase local producer's access to international markets, making Malaysian LED producers more globally competitive and eventually establish a framework to enforce compliance and consumer protection," she added.

According to McKinsey's 2011 lighting market report, the estimated global revenues from the LED lighting market will grow at 30% per annum, amounting to almost 65



**Chris Tan:** 'LEDs are proven to be more cost efficient.'

billion Euros (RM227bil) by 2020 – almost 60% of the overall lighting market.

### Big market

LED manufacturer Itramas Corp Sdn Bhd is optimistic of its prospects moving forward, in light of the new standards coming into play.

"The global LED market is worth US\$106bil (RM339bil) and the penetration rate is only between 6% to 7%. It's not surprising that many players are eager to jump on the (LED) bandwagon," says group managing director and CEO Lee Choo Boo.

Itramas started operations in 1999 and currently exports its products to 17 countries. The company has a manufacturing plant in Penang. About 60% to 70% of its business is derived from the export market.

Lee says the usage of LED lights has a lot of growth potential in Malaysia.

"The problem is the cost (of LED lights). If we have good adoption rates, more people will start buying and there would be better economies of scale. This will then help bring down the cost," he says, adding that the phasing out of incandescent lights by the Government is a good move.

"CFLs are cheaper but it's not safe because of the mercury content in it. With LEDs, there are no environmental issues but we need mass adoption."

"With standards in place, people will be more likely to purchase products that are certified," he says.

Pemandu's Electrical and

Electronics National Key Economic Area director Chris Tan says the local LED market is set to see a significant uptick with the impending implementation of the incandescent lighting ban.

"All segments, government, enterprises and consumer will be faced with a choice of technologies in transitioning to more energy efficient lighting solutions. LEDs are mathematically or scientifically proven to be more cost efficient over the total term of ownership."

"The slightly higher initial acquisition costs are readily recovered via savings in reduced electricity consumption," he says.

Tan says "large scale enterprise" customers also enjoy significant operational savings via improved maintenance and inventory management efficiencies due to the high predictability of lifespan of semiconductor based products.

"However, these savings are realised only if manufacturers produce products that comply with the standards that will ensure the promised performance."

He points out that consumers are usually tempted to buy the cheapest available product, only to end up being disappointed with their purchase eventually because these products don't perform up to expectations.

"This will present the industry with multiple ripple effects i.e. the negative perception created by cheap sub-standard products (typically imports) will affect the prospects of manufacturers who do invest in the technology to produce the best products according to global standards."

"This may then result in a stunting of the industry as a whole, and sub-optimism on both our industry development and energy efficiency initiatives."

Tan adds that for the sake of the ETP in which the LED sub-sector is expected to be a major contributor of gross national income, it is imperative that the MS being developed by Standards Malaysia and regulated by the Energy Commission, be adopted and eventually enforced to ensure LED players get the position they deserve in this exciting new industry.

## Keeping the standards high

TO ensure Malaysian LED companies are globally competitive, the Department of Standards Malaysia, an agency under the Ministry of Science, Technology and Innovation, has adopted accelerated timeframes to hasten the adoption process of these LED standards in response to the impending policy changes. The Malaysian Standard (MS) will help to ensure the quality of local products, both for export and domestic use.

Currently, international certification within Malaysia is possible. The first-of-its-kind LED-SSL Certification Centre outside of the US was set up in Penang in 2011.

Developed jointly by Northern Corridor Implementation Authority (NCIA) and QAV Technologies Sdn Bhd (QAV), the LED-SSL Certification Centre in Penang is equipped to perform testing in accordance with the standards of the American National Standards Institute (ANSI).

The centre serves as a platform to verify the compliance of Malaysian products comparable to global standards as well as to help local companies develop their test and certification procedures. This will enable local companies to be more competitive by capturing customers from not only within Malaysia, but also from Asia, United States and Europe.

The testing and certification facility for LM79 and LM80 has been in operation since April 1, 2011.

QAV Technologies, set up in 2002, specialises in environmental testing, test equipment customisation and test technology development, among others.

It is the first firm, outside the US to be certified by ANSI and boasts a client list of some of the top global technology firms.

This initiative is in line with the Federal government's efforts under the ETP to revitalise the electrical and electronics sector.

The proposed centre is expected to see the creation of some 1,000 new jobs in the sectors of supply chain, logistics and transportation in the LED and solid state lighting industries.

QAV Technologies managing director Dr John See believes the standards will help the local industries to continue producing good quality products without fear of unfair competition from "inferior imports dumping."

"With these standards, we can safeguard all Malaysians who purchase LED lamps for their homes that they are buying good quality and safe lamps," he says.

"It will cut out unfair competition for good quality manufacturers as they will not need to compete their good quality product with inferior quality pricing. Products that passed the tests can be exported easily and this will reduce the possibilities of Malaysia from becoming a dumping ground for inferior products."

"Consumers can also have peace of mind regarding the safety of the products as they will come with warranties."