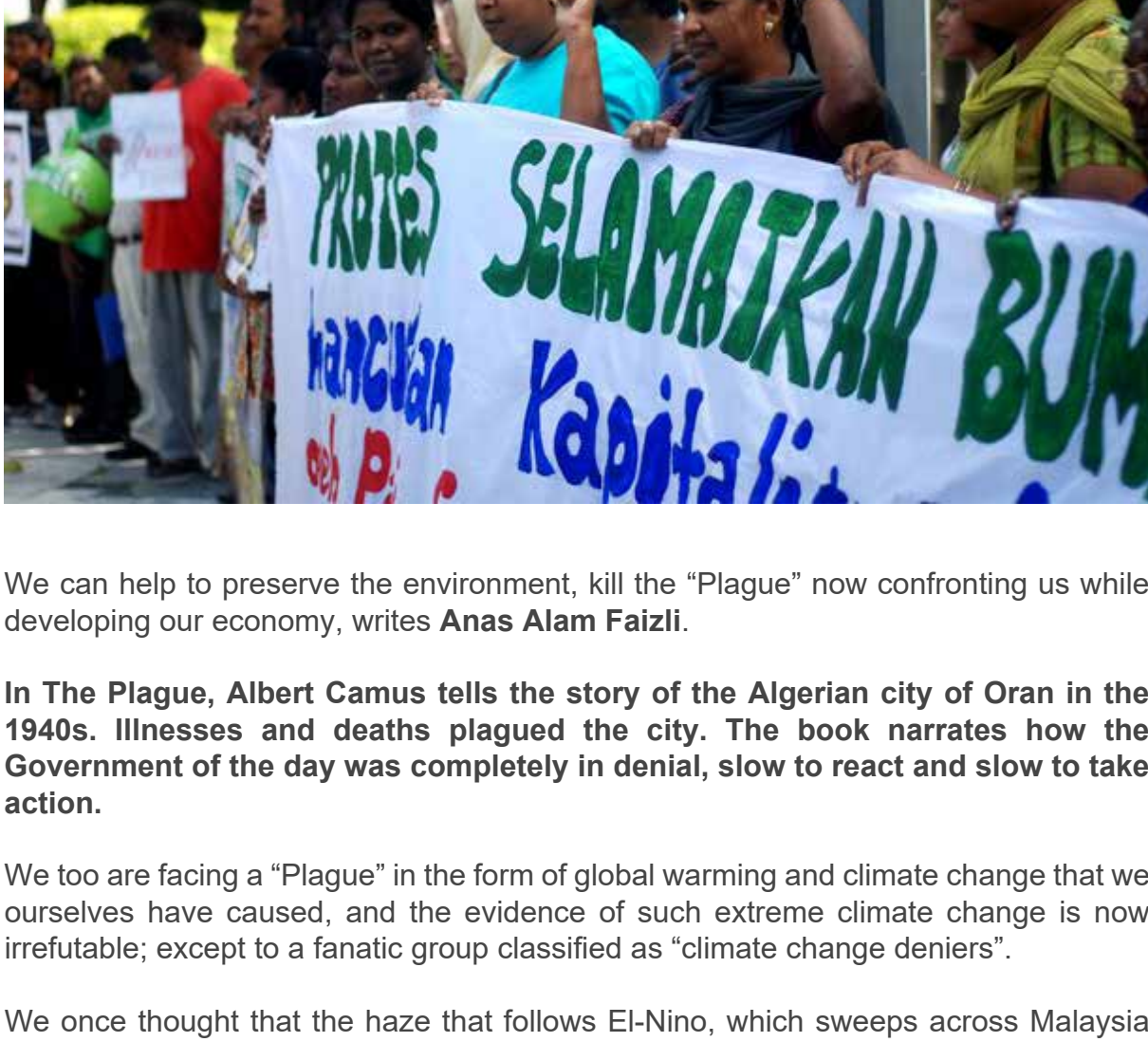


# Save Malaysia's environmental plague and economy

by Aliran admin - Sunday, 26 January 2017



We can help to preserve the environment, kill the "Plague" now confronting us while developing our economy, writes **Anas Alam Faizli**.

**In The Plague, Albert Camus tells the story of the Algerian city of Oran in the 1940s. Illnesses and deaths plagued the city. The book narrates how the Government of the day was completely in denial, slow to react and slow to take action.**

We too are facing a "Plague" in the form of global warming and climate change that we ourselves have caused, and the evidence of such extreme climate change is now irrefutable; except to a fanatic group classified as "climate change deniers".

We once thought that the haze that follows El-Nino, which sweeps across Malaysia almost every year, was the epitome of climate danger. We have been regrettably forced to "celebrate" it by wearing our N90 masks and even having to close down our schools to safeguard the health of our children. Normally happy-go-lucky Malaysians turn gloomy and morose as the blue sky turns grey, dark, and smelly.

It is a well-known cliché that ignorance is bliss. So, while we clamour against the haze caused by El-Nino, unknowingly, with each breath that we take, every day we inhale something that is far more dangerous: the silent killing toxic air in our atmosphere. It is more persistent with serious long-term consequences.

This is the pollution caused by our common daily rituals from our transportation needs and energy usage. Just because we do not see it and it is not tangible, doesn't mean that it isn't there. Welcome to the world of CO<sub>2</sub>, NO<sub>x</sub> (oxides of Nitrogen) and other nefarious pollutants. These pollutants are poisonous to human and animal life, and prolonged exposure can lead to fatality.

But there is a way out if we are willing to understand the root causes of the problem and take action to resolve them. Let us see what is already in place and consider if what we are doing is enough, or make up our minds to do more for our future wellbeing. More importantly, are we doing it correctly?

## UN Framework Convention on Climate Change (UNFCCC)

To fully discuss energy, we need to understand both sides of the equation which includes demand (consumption) and supply (power generation). Both need to be managed optimally to ensure stable and reliable supply to consumers in a sustainable manner with minimal impact on the environment, without sacrificing economic development.

In the region, Malaysia is one of the most inefficient energy users, considering our high level of energy intensity. Our neighbours are so much ahead than us in EE. This offers a no-brainer opportunity where the consumption side could contribute more to the greater good for our nation in terms of cost saving for consumers and minimising the negative impact to the environment through the adoption of efficient use of energy, or Energy Efficiency (EE).

Focusing on EE alone could have saved the nation over RM60bn over a 10-year period (by delaying new power plant construction and saving on fuel and gas subsidies for energy generation) according to KeTHHA, as planned under the preliminary National Energy Efficiency Master Plan (NEEMP), which was then watered down to the National Energy Efficiency Action Plan (NEEAP) in 2014.

According to the Natural Resources Defence Council (NRDC), EE is the greatest energy resource – reducing energy wastage and making the most out of what we already have. This is also true for Malaysia. If Malaysia can save even 20 per cent of its energy demand, then that is already equivalent to about 3,000MW or three nuclear power plant generating units. Imagine that!

Why is it that there is no law nor policy to regulate EE in Malaysia? This is clearly what we need most urgently now. A comprehensive regulatory framework must be put in place. We can start by regulating all our industrial and commercial buildings to be EE compliant.

The supply side will need to focus on the substances and not the packaging. In Malaysia, power generation from wind, tidal power, and wave power have limited potential. We need to recognise that the economically viable and potentially viable solutions would be renewable sources from small hydro and solar (PV), solid waste, biogas, plantation waste, biomass from palm oil empty fruit bunches, and palm oil mill effluent. These are the options that we should be focusing on.

According to the Sustainable Energy Development Authority (Seda), the target for renewable energy generation should reach 2,080MW or 11 per cent by 2020. Including the PV farms would have raised that target to 3,140MW. However, as of 2016, generation from renewable energy is only 2 per cent. Are we not giving the right emphasis for the promotion of renewable energy (RE) generation in Malaysia?

According to Seda, in 2015, a total of 128 projects in RE (RM1.37bn) were approved where 84 are solar power energy projects, 33 biogas projects, four mini hydro and seven biomass projects. Within the same year, a total of 31 projects in EE (RM406.5m) were approved.

The question is, where has the money gone to and what improvement has it brought to us?

A notable observation is that while incentives had been given, the RE targets have failed to be realised as the prospective developers are unable to make their projects viable or raise the required project financing.

The feed-in tariff (FiT) is considered low, and the subsidies given to fossil-fuelled power make RE less competitive. The current FiT in Malaysia (excluding solar; now using net energy metering) is at US\$0.05-0.10/kWh as opposed to Indonesia at \$0.13-0.22/kWh, the Philippines at \$0.11-0.19/kWh and Thailand \$0.12-0.19/kWh.

By increasing FiT without transferring the cost to the consumers and taking away fossil fuel-related subsidies, you will see that RE can be competitive.

Another incoherence is on the tender process for RE plants. Several solar power plant tenders have been awarded through direct negotiations and their terms and conditions were classified under the Official Secrets Act 1972.

## Public transport: Increasing ridership

For transport, the way forward must include reducing the number of private vehicles, increasing the ridership share of public transport and, most importantly, moving away from fossil fuel-based transport. How can we achieve this and where are we now? Are we on the right track?

Back in 1980, 30 per cent of Malaysians took public transport. This was the era of the mini-buses that have gone extinct as a result of transportation policies that favoured private vehicle ownership versus public transport ridership. The number then drastically dropped to 12 per cent in 2008, before rising slightly to 17 per cent in 2015, way below that of 62 per cent in Singapore and 90 per cent in Hong Kong, as reported by the World Bank.

The 5 per cent increase in the last seven years was attributed to the light rail transit. Nonetheless, 17 per cent is an alarming sign that we are still far behind, and Malaysia needs to rethink its future direction in terms of transportation.

What of private vehicles? The Journal of Traffic and Logistics Engineering (2015) indicates that as of 2012, there were at least 20m registered vehicles in Malaysia. Car ownership in Malaysia is the third highest in the world at a whopping 93 per cent with 54 per cent of households having more than one car.

The trend is not healthy; more private vehicles are being registered as opposed to public transportation (buses). According to the World Bank, in Kuala Lumpur, people spend more than 250m hours a year stuck in traffic! And such traffic congestion is an opportunity cost of 2 per cent of GDP or RM80 per hour per driver.

The construction of Mass Rail Transit (MRT) and the proposed construction of the East Coast Rail Line and High Speed Rail are among necessary remedial steps for developing suitable public transportation infrastructures, but the costs are exorbitant and this approach alone is insufficient.

The estimated construction cost for the MRT has skyrocketed from an initial of RM40bn to now RM120bn (believed to cost two to three times more than the global standard), with the ECR estimated at RM55bn and the HSR at RM60bn.

All three fall into different categories of urban transportation and people movers, but industry analysts have argued that the cost escalation is outrageous and unjustified. The only reason it is not getting heated objections from the general public is because the public desperately wants more public transport. It is such a regret that it has been taken advantage of.

The MRT, which will only provide an additional 2m ridership per day, even escaped scrutiny when it was announced as a government project and then changed to a private project recently in Parliament. It is eye-popping that RM120bn will be spent solely for the MRT, which will benefit mostly Klang Valley residents.

What is needed is holistic public transportation that is sufficient to cover from point A to point B with the best overall coverage, which needs to be incorporated with other modes of transportation like the Bus Rapid Transit (BRT), which supplements rail. For every kilometre of the MRT, we can build 20km of BRT. More coverage means more access to the public.

## Public transportation: Reducing fossil fuels, harmful emissions

Efforts to bring electric vehicles (EV), energy-efficient vehicles (EEV) and hybrid vehicles to Malaysia must be lauded. All these will definitely help reduce GHG emissions and make Malaysia a regional hub for these green vehicles. However, like the case of our exorbitant rail infrastructure, there are focus misalignments. The incentives are being channelled to the wrong target.

Why should we incentivise individual luxury EVs which would end up as toys for the rich and the wealthy to parade? First, it is not affordable to the majority. Secondly, the power used to charge the cars comes from the national grid, which in Peninsular Malaysia is 95 per cent powered by fossil fuel.

However, electric traction can be considered for public transportation be it LRT, MRT, monorail, and also the introduction of the BRT, intra-city buses, intra-city rail, etc. These will be green. The objective is to increase ridership shares, reduce private vehicles on the roads and ultimately reduce emissions.

Alternatively, while we are turning our grid green, we can put higher incentives on government procurement of buses that run on biogas or ethanol. These are the low-hanging fruit that is readily available, but not normally utilised. We can easily obtain biogas from the abundant biomass that is available in Malaysia or from municipal waste.

If the government is planning to spend money to procure electric buses, we can use that to buy buses that run on biogas instead. Whilst it can be argued that biogas buses are more expensive than conventional buses, it will be very competitive if you take away fossil-fuel subsidies.

Another misaligned incentive is the locally assembled high-end models of hybrid vehicles including Audi, BMW, and Mercedes Benz which are beyond what the majority of Malaysians can afford.

We should instead focus on giving more incentives and tax breaks for more affordable vehicles with less than 2,000cc engine capacity. When the government introduced tax exemption on EV and hybrid cars in 2012, we saw a spike in purchases from consumers. Unfortunately, this was ended in 2014, and the purchases have diminished significantly.

## Green buildings: Construction industry and Green Building Index (GBI)

The construction industry can also play a pivotal role in saving Malaysia from the Plague. The construction industry is a major consumer of non-renewable resources and a massive producer of waste. In addition, the operation of buildings is responsible for around a third of the total CO<sub>2</sub> emissions.

About 30-40 per cent of natural resources were exploited by the building industry, including 50 per cent of energy used for cooling in buildings. Almost 40 per cent of world consumption of materials converts to the built environment and 30 per cent of energy is used for housing. Clearly, the construction industry can also play a role in conserving the environment and reducing harmful emissions.

The Construction Industry Development Board Malaysia (CIDB), the body in charge of the Malaysian construction industry, has always taken proactive actions to address the issue of sustainable construction and assisted stakeholders in its adoption of the Industrialised Building System (IBS) and steel-based construction, which is greener and more energy efficient than the traditional methods used in Malaysia.

This could be measured by the Green Building Index (GBI), a national ranking system and a set of guidelines for green development that was also established in 2009. It is a rating metrics that ranks building for everything green, from sustainable site planning and construction to efficient operations as well as its contribution to social wellbeing. The better the score, the higher level a GBI certification is earned, and the more prestige and green tax incentives a building can take advantage of.

In Malaysia, a prime example of certified GBI buildings would be the Energy Commission's Diamond Building in Putrajaya. Other examples would be the Malaysian Green Technology Corporation (MGTC)'s building and the Security Commission's building.

Unfortunately, it stops there. We should be moving towards transforming all new future development as sustainable green buildings. A more aggressive effort is clearly needed in this area. One way to do it is by getting Prima to adopt this in its implementation considering they will be contributing the most for new residential developments in Malaysia. For commercial development, more enforcement can be introduced in stages for moving towards green sustainable buildings target.

## Water: Smart monitoring

In Malaysia, 1,389m litres per day (MLD) is lost due to pipe leakages and theft and that stands at 32 per cent of water supplied as non-revenue water (NRW). The World Bank recommends every country to target 25 per cent or below. We are far behind and something must be done urgently. Moving forward, we should aim to achieve the levels of developed nations such as Singapore at 5 per cent and Germany at 7 per cent.

More technology in the management and utilisation of water resources is required to source better quality and greater efficiency in procuring, recycling, and filtering of water – which can be achieved through various high technology projects. A good start will be the implementation of smart metering which facilitates reduction of leakages, usage efficiency and usage awareness among consumers. However, none of this will work without effective management, which must begin now.

## Waste management: Say No to landfills

Waste management includes waste water treatment, utilisation of solid waste and sanitary landfills. The waste would come from industrial, municipal, agricultural, sewage, and organic waste. Excluding construction, Malaysia is now generating solid waste of roughly 33,000 tonnes a day; where two thirds of it comes from urban households with very low recycling rates of 9.6 per cent.

A significant problematic issue to be highlighted would be the alarming Malaysia landfills dumpsites in Malaysia. If we can target a 40 per cent diversion from landfills by 2020, we would benefit by a potential avoidance of 5.8m tonnes of CO<sub>2</sub> – which is equivalent to emissions from 1.2m on the road per year. We would potentially save RM80m (land acquisition), RM16m per year (leachate treatment) and RM15.2bn (avoidance of capital expenditure).

Furthermore, the existing unsanitary landfills will remain unusable for at least another 20 years after proper closure. Not to mention the average life-span of a landfill is only 10 years. At the moment, we are continuously extending our landfills by acquiring adjacent lands to existing landfills.

What a waste of our land, which could be put to better use such as allocating it for low-cost housing. We need to move fast and divert our wastes from landfills, which are producing dangerous methane emission.

The technology for waste recycling, waste to energy, waste as fertilisers, and waste reduction can be imported from leading countries in Europe. There are many companies coming in to invest and to carry out transfers of technology, but we need to provide an economical amount of tipping fee to make these projects economical and feasible. The tipping fee currently provided by the government makes waste management from only landfills feasible and not from any other options. By comparison, Thailand, Indonesia, and the Philippines provide almost double the tipping fee.

## Saving the environment, expanding Malaysia's sustainable economy

Let's now kill two birds with one stone. We can actually preserve our environment and generate economic benefits from it, and in the long run, take the opportunity to be the technology leader in the region. This is also a form of adding value to the economy and moving away from our current "rentier capitalism" into techno-industrial capitalism.

Immediate action must be taken now to "walk the talk" on Malaysia's commitments made at COP15 (in 2009) and COP21 (in 2015).

On energy, we need to first focus on EE, which is the low-hanging fruit and then develop a greater share of RE, and only then can we even consider, if it is necessary, adding more fossil-fueled powered generation plants.

We must urgently adopt an EE Act and a policy to comprehensively regulate and enforce EE in Malaysia. To further promote RE, a revisit of the FiT and incentive prioritisation must be conducted urgently.

For transportation, the exorbitant amount of money spent for our ongoing transportation projects must be seriously revisited and questioned. Holistic transportation that includes all modes of transportation must be introduced.

Incentives being granted to moving towards personal electric mobility, reducing private vehicles, and increasing ridership shares of public transportation use must be more thoroughly evaluated to prioritise them appropriately.

Hybrid and EEVs for personal transport are a better option than EVs, as they are more affordable to wage-earners who would use them for regular commuting to work. However, for public transport, a mix of electric-powered transportation and adaptation of biogas as fuel is an antidote we currently require.

More focus should be given towards pushing for sustainable buildings and smart cities. Funding for research and development in all green technology-related initiatives must also be significantly increased.

We need to resolve our NRW water issue with the latest technology to reduce water leakages. Nothing significant has been done for waste management, and the time is ripe for more focus on the subject. A task force must be assembled to tackle this.

To supplement the government and the private sector, third-party players from civil society must be supported as they will be able to go deep into the grassroots and raise the awareness of more Malaysians. An example would be the Malaysia's National Coalition of Environmental (Menngo), a coalition of 30 NGOs founded in 2009 which has been active in fostering and creating green awareness.

All the above calls for every stakeholder to relentlessly push for changes with full support from the government, including its agencies, the private sector and third-party players, the NGOs, and every Malaysian.

We can help to preserve the environment, kill the "Plague" now confronting us while developing our economy by prioritising economic development initiatives to get the "biggest bang for our buck".

The capital investments under our five-year development plans, especially for the ongoing 11th Malaysia Plan, and the export of our technology services and expertise regionally by becoming the green technology leader in the region, are viable options to bring in bigger profits and sustainable economic growth while still keeping our carbon footprint controlled.

Implementing all the above proposals must be executed now for the five key sectors. Malaysia boleh!

A version of this was first published by Astro Awani.

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