Taking local green technology to greater heights

SIRIM Berhad, the nation’s industrial research and development organisation, has had long years of experience researching and applying green technologies.

Underlying all of SIRIM’s projects is the element of practicality – they are all capable of real-world application. More importantly, SIRIM focuses on projects that benefit local communities and address pressing needs in environmentally-friendly and sustainable ways.

In this issue, the spotlight is on an initiative that aims to bring efficiency and quality to green technology innovations in Malaysia, while addressing the need for comprehensive and useful information about green resources. **MAPPING OUR RENEWABLE ENERGY RESOURCES**: Malaysia is a resource-rich nation. Most people would not think so – the only natural resource the country has in relative abundance is oil and gas. But there is so much more that is ripe for the picking. Malaysia has an abundance of renewable energy resources.

Renewable energy resources are certainly of current interest, due in no small part to the growing urgency of energy security. In fact, part of Malaysia’s philosophy on green technology – as defined by the Ministry of Science, Technology and Water – is to maximise the use of renewable resources, says Dr Chen Sau Soon, the Senior General Manager of SIRIM’s Environmental Technology Research Centre.

Dr Chen’s project, the Renewable Energy Resource Map of Malaysia (REMap), aims to do just this. Funded in part by MOSTI (the Ministry of Science, Technology and Innovation) with collaborations from various other agencies and institutes, REMap is basically what its name implies – a map of the country’s renewable energy resources.

"Everyone knows where our oil fields are, but where are the wind or the solar energy fields, and the biomass we should tap? The REMap is a database of all this information," she explains.

REMap focuses on the major sources of renewable energy available in Malaysia:

- Chicken manure
- Solar
- Wind
- Tidal
- Rivers (pico to micro-hydropower)
- Rice husks and straw
- Palm oil biomass and biogas
- Forest and mill residue
- Municipal waste

Each of these resources is capable of producing renewable energy. Sawmills, for example, produce wood residue that can be used as feedstock for energy production, as can rice husks from paddie fields. Manure from chicken farms and solid waste from municipal landfill sites can produce biogas, a fuel much like natural gas.

Dr Chen and her team, in collaboration with Malaysia Palm Oil Board, Forest Research Institute of Malaysia, Malaysian Nuclear Agency, Solar Energy Research Institute and Malaysian Remote Sensing Agency, spent about a year-and-a-half gathering information not only on renewable energy resources but also roads, railways, rivers and electricity grid lines, using all kinds of avenues, trawling through, checking and re-checking voluminous amounts of data to inform REMap.

"The distinctiveness of REMap is that it integrates the information about the country’s renewable resources into one map and links them to strategic information such as the transport network and electricity transmission lines," says Dr Chen.

All this information – the availability and accessibility to these renewable energy resources will enable industries, investors or researchers using the map to determine the feasibility of using a certain resource.

REMap has the potential to really accelerate the green technology landscape of the nation by allowing easy, efficient, access to accurate and up-to-date information of Malaysia’s renewable energy resources to researchers, investors and even the public. It will be made available to the public via an interactive website that contains information about Malaysia’s renewable energy resources. Those who need further information can obtain a comprehensive report made available as part of the services offered by the Environmental Technology Research Centre in SIRIM, which can map out the resources and provide details on available accesses, infrastructure and utilities.
The Renewable Energy Resource Map of Malaysia (REMap) is an interactive website that aims to maximise the use of renewable energy resources in Malaysia.