



Enhancing Engineering Competence to meet the National Energy Challenge on 25 Feb 2016

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In the global context, many countries are facing the energy trilemma encompassing the security, sustainability as well as affordability of energy supply. When looked upon closely, one can easily notice that these three global energy challenges are intertwined and any nation which wishes to develop economically has to overcome all three because energy is the fuel of economy.

The recent tumble of world oil price has further complicated the energy trilemma. With the low oil price, the importance of energy efficiency may be further downgraded into secondary consideration. Although consumers will gain handsomely especially the huge global players with continuing massive growth such as China and India, energy security may be treated with complacency now that energy efficiency is not as cost effective as it was when the oil price is high. This issue would also trigger the global supply of oil to slow down which in turn may cause price bounce in an unpredictable future.

As the result, the global skills and jobs sector would also be affected accordingly. From the energy industry's perspective, new projects and jobs in the energy efficiency and renewable energy industries may be postponed, cancelled or significantly reduced in terms of demand. Research and Development activities may dwindle as well now that investors find renewable technologies as less attractive. Engineers, whom are the key technical players in the energy industry would migrate to other industries with more lucrative pays while the voids that they have caused would be filled with non-engineering or non-technical personnel. These expertise and skills lost would be difficult to be regained once the need of such spikes again in the near future.

In the Malaysia's energy-driven economy landscape, the energy industry would still maintain its prominence as we excel and accelerate towards the attainment of a developed nation status by the year 2020. This is reflected by the nature of the 12 key elements areas tagging along Vision 2020 which includes oil, gas and energy with boisterous targets of 52300 new jobs created in energy sector by 2020.

With this in mind, it is imperative for various stakeholders which includes the government, universities as well as professional bodies to embody the possible roles that they need to play. The universities should churn out engineering graduates with the attributes that employers in the energy industry need:

1. Leadership skills
2. Technical skills
3. Project management skills
4. Flexible, adaptable workforce
5. Breadth and depth of skills
6. Willingness to invest in self and own learning needs
7. Commitment
8. Commercial skills mobile

On the other hand, the professional bodies such as IEM and the Energy Institute (EI) should continue to provide a platform for engineers to:

1. hone their soft skills, undertake networking, mentors flexibility, gain membership benefits for early career and build up a professional development plan
2. engage in additional training and embrace the responsibility in developing high level skills, adaptability and professional recognition
3. represent the organization, develop future talent, be in charge of leadership change and to maintain professional competence
4. promote knowledge sharing by offering access to knowledge by qualified energy professionals
5. develop engineering competence

Speaking of enhancement of engineering competence, all three of the aforementioned stakeholders have roles to play. Accreditation of university academic and employer training programmes is paramount to ensure that quality is in check. Other areas include professional recognition for international standards, specialist engineering titles, broader expertise and training, comprehensive CPD offering, monitoring and assessment and cross fertilization with different engineering specialisms.

Last but not least, the government i.e. the public sector should take the lead in spearheading the renewable energy efficiency industry. This is really an important aspect of the energy industry as it is the key to resolve the global energy trilemma as aforementioned. Policies which enhances engineering competency needs to be put in place to ensure that the manpower is sufficient and of sufficient quality to drive our energy-driven economy. Future direction could be in encouraging more energy-saving initiatives albeit in low-cost manner.