



Stuart Manifold
Industry Skills Development Leader
Global Growth and Operations
General Electric (Australia and New Zealand)
Level 6
14-16 Victoria Avenue
Perth WA 6000

10 February 2012

Committee Secretary
Senate Education, Employment and Workplace Relations Committee
PO Box 6100
Parliament House
Canberra ACT 2600

RE Senate Education, Employment and Workplace Relations Committee Inquiry

General Electric (GE) believes the Senate Education, Employment and Workplace Relations Committee's Inquiry into "The shortage of engineering and related employment skills" is timely and its ultimate recommendations instructive for addressing the skills challenge confronting Australia.

The continued expansion of the resources sector, the transition to a Clean Energy Future and the pipeline of major economic and social infrastructure projects are competing for engineering professions and associated trades.

As a technology supplier, services provider, project financier and major employer of more than 5000 staff in Australia and with 116 years' experience in the Australian market, GE is well positioned to provide comment on the availability of skills, current efforts by governments and industry to improve skill supply and strategies can to secure the future skills required.

To this end, GE welcomes the opportunity to contribute to the Senate Committee's Inquiry and to inform its final report and recommendations.

General Electric's approach to skills development and attraction

To meet its own future skills needs, GE is implementing a range of additional recruitment and human resource strategies and initiatives.

These include:

- involving human resources management and recruiters during front end engineering and design (FEED) or pre-tender stage and development a recruitment strategy;

- sourcing market information early such as salaries/wages and availability of resources in the current market;
- using innovative sourcing channels such as LinkedIn, Jobvite, Twitter and Facebook;
- supporting and participating in Engineering Days and Careers Fair;
- partnering with industry bodies and stakeholders such as Engineers Australia;
- operating an intern program;
- encouraging employee referrals and cross business talent sharing;
- creating a Diversity Council within GE Energy to promote strategies to encourage female participation in its businesses; and
- driving recruitment excellence through the GE Careers Centre, recruitment surveys for candidates and hiring managers, and maintaining focus on retention.

Last year GE initiated an Engineering Graduate Program (EGP) for Australia. The program is in two streams – Energy, and Oil and Gas.

The two-year rotational program, with an annual uptake of up to 22 across both streams, offers talented engineering graduates an opportunity to develop their skills in specific engineering sectors.

Through GE’s work with Engineers Australia, the program will also help to develop associates as they move towards achieving Chartered Engineer status and build up their skills, knowledge and abilities to ensure the talent pipeline for GE’s growing business. As part of our EGP, graduates will work alongside senior members within a GE team.

In addition, GE Oil and Gas has worked with its customers, LNG industry partners and registered training organisations (RTOs) to develop a co-ordinated effort to address the skill requirements of the burgeoning liquefied natural gas (LNG) industry. The Australian Government announced in September 2011 that the proposal led by GE to co-ordinate an effort “to up-skill 186 existing workers and train 118 new workers delivering Certificate II-IV qualifications and skills required for the operation of upstream oil and gas assets in Western Australia and Northern Territory”¹ on behalf of four employers and through RTOs had been approved under the Critical Skills Investment Fund (CSIF) program.

This effort aligns with the Government’s National Resource Sector Employment Taskforce (NRSET) finding that “timely development of skills to meet the needs of resources projects and those of other industries that lose workers to resources projects will take significant effort”. The Taskforce’s final report also projected a shortfall of 1700 engineers and 3000 geoscientists within five years.²

¹ Senator The Hon Chris Evans, “Critical Skills Fund to deliver training to thousands of workers”, September 19 2011.

² National Resource Sector Employment Taskforce, “Resourcing the Future”, July 2010, page 4.

Senate Committee – Terms of Reference

GE acknowledges the “nexus between the demand for infrastructure delivery and the shortage of appropriate engineering and related employment skills in Australia”.³

The 2011 Skill Shortages report issued by the Department of Education, Employment and Workplace Relations (DEEWR) found that: “skill shortages remained constrained in 2011, with employers facing mixed recruitment experience... with the most significant tightening [of recruitment] being recorded for Building Associates, Social Professions and Engineering Professions”⁴.

Specifically, DEEWR reported the proportion of vacancies filled in the Engineering Professions, Engineering Associates and Engineering Trades in 2011 were at a rate of 40%, 59% and 65% respectively; representing a reduction of 10% for Professions, a reduction of 1% for Associates and an improvement of 1% for Trades compared to the previous 12 months. Similarly, the number of suitable candidates per vacancy have decreased by 0.5 to 1.3 for vacancies in the Professions, decreased by 1.3 to 1.4 for Associates and remained stable at 1.5 for Trades over the same 12 month period.⁵

As the Committee would appreciate, project investors, developers and suppliers make investment and workforce planning decisions based on a range of factors. Significant among those factors are the clarity, consistency and sustainability of government policies and programs.

Bipartisan support, where possible, for legislative measures, harmonization of policies and programs between jurisdictions and a secure funding base for support and incentive programs provide greater confidence for these companies to make long-term decisions about investment and employment.

In terms of skills development, the policy signals to business also need to be transmitted to RTOs and other providers of education and training to be responsive to industry’s need for skills.

The Committee will note the Government’s announcement on February 1, 2012 that it would work with the States to introduce measures to:

- remove requirement for upfront fees payable from any student pursuing a VET Diploma or Advanced Diploma by allowing them to pay Higher Education Contribution Scheme (HECS)-style fees;

³ Senate Education, Employment and Workplace Relations Committee, “The shortage of engineering and related employment skills: Terms of Reference”, November 2011.

⁴ Department of Education, Employment and Workplace Relations, “Skill Shortages 2011: Summary”, January 31 2012, page 1.

⁵ Ibid, page 3.

- guarantee a government-subsidised training place for students studying foundation and entry-level courses for technical and service sector careers in areas such as health, business, hospitality, communications, construction, transport and other areas; and
- introduce a guaranteed entitlement for students to gain skills and achieve a qualification by progressing up to Certificate III level.

In addition to this flexibility for students, government and industry need to encourage young Australians, who are interested in a career in engineering and associated professions and help deliver new infrastructure and major projects, to make appropriate subject selections in secondary schooling – with their parents and guardians - to progress to tertiary and vocational education training after leaving school.

By arming school students with an understanding of the opportunities in these fields, what is required and how qualifications can be obtained. Further development of secondary school and TAFE gateway programs should be part of a wider schools engagement program supported by government and industry.

Recommendations

- 1. Support efforts by industry and registered training providers (RTOs) to provide consolidated training qualifications for key industries, such as the liquefied natural gas (LNG) industry;**
- 2. Provide flexibility for the temporary movement of specialist service staff to perform temporary and urgent tasks, such as highly technical servicing or repair assignments or for the commissioning and auditing of plant and equipment or in the installation, dismantling and transfer of equipment of processes; and**
- 3. Establish a taskforce, modeled on the Government’s National Resources Employment Sector Taskforce (NREST), to assess the skills need, supply, specific qualifications and knowledge gaps in the clean (and broader) energy sector through consultation with industry participants, training providers and governments.**

1. Qualifications for LNG industry

One of the largest demands for labour for major projects is in the associated trade and craft labour pool.

These skills are required from procurement through construction, installation and commissioning. Additional personnel of similar skills and experience will, at this point, become responsible for the operations phase of the project.

Currently, the training packages required to achieve qualifications that can be applied in LNG projects (conventional and unconventional) include:

- RII Resources and Infrastructure Industry Training Package;
- PMA08 Chemical, Hydrocarbons and Oil Refining Training Package; and
- MEM05 Metal and Engineering Training Package.

These training packages each contain partial competencies that need to be blended to obtain the various skills required for personnel specialising in the LNG industry.

There would be significant benefit and interest by industry to develop fully integrated training package defining learning pathways for the LNG Industry.

GE Oil and Gas has started consultation with industry both in conventional LNG and CSG-to-LNG, and their interest in the development of a “One LNG” training package.

This would assist in attraction, retention and growth of the skills pool in Australia. This means that skills from declining industries could be developed to fill the gap in new and emerging ones.

GE further notes the NREST referred to Australian Treasury reports which projected:

“Strong LNG sector growth, and major resources projects in the pipeline, may significantly increase engineering construction investment as a share of total business investment over coming years. The Australian Treasury further noted that LNG sector growth has the potential to increase Australia’s LNG production capacity four fold—although it should be noted that Australia has never before supported construction of more than two gas trains concurrently and such an expansion has never occurred anywhere in the world beyond Qatar.”⁶

2. Trans-border movement of specialist services personnel:

GE welcomed the NREST recommendations, and the Government’s decision to implement, that applications for use of the subclass 457 visa program should be finalised by the Government within five working days of a complete application being lodged and to introduce and promote the appropriate use of Enterprise Migration Agreements for ‘mega’ resources projects.

In the 2011-12 Federal Budget the Government announced the skill stream intake that would increase to 125,850 with 16,000 places allocated to the Regional Sponsored Migration Scheme. The Government also committed to fast-track permanent residency for temporary business.

GE has recommended to the delegations representing Trans-Pacific Partnership (TPP) Agreement countries, including Australia, that the Agreement should include a

⁶ National Resource Sector Employment Taskforce, “Resourcing the Future”, July 2010, page 19.

landmark accord on environment goods and services and provisions for trans-border movement of highly-qualified services personnel.

GE believes these provisions should accommodate the temporary trans-border movement of skilled energy services personnel required to perform highly technical servicing or repair assignments or for the commissioning and auditing of plant and equipment or in the installation, dismantling and transfer of equipment of processes.

This recommendation aligns with the NREST's suggested approach regarding temporary migration for mega projects.

Technologically advanced environmental equipment installation, maintenance, servicing and repair require rapid deployment of highly qualified personnel to meet emergency situations.

GE has urged TPP countries consider provisions to facilitate the temporary trans-border movement of highly qualified energy services personnel to perform highly technical servicing or repair assignments for the commissioning or auditing of plant and equipment or in the installation, dismantling, transfer, repair, or maintenance of equipment or processes. Emergency situations can result in multi-million dollar costs being incurred daily due to damage to equipment and loss of essential services.

The TPP Agreement is being negotiated by Brunei Darussalam, Chile, New Zealand, Singapore, Peru, United States of America, Vietnam, Malaysia and Australia. Japan, Canada and Mexico have formally expressed interest in joining the TPP negotiations.

3. Taskforce to undertake skills audit for Clean Energy Future

With the release of the Clean Energy Future package in July last year, the Government announced a \$32 million four-year Clean Energy and Other Skills Package to enable tradespeople and professionals in key industries to develop the skills needed to deliver clean energy services, products and advice to Australian communities and businesses.

The Government heralded the Clean Energy Future would “reduce emissions and drive investment in clean energy while ensuring the economy continues to prosper, with 1.6 million jobs to be created by 2020”.

The Government's Energy White Paper acknowledged projections that as much as \$240 billion might be needed by 2030 in the domestic electricity and gas sectors alone.

Announced by Prime Minister The Honourable Julia Gillard MP in July last year, the Package has four key components:

- a baseline map of existing sustainability knowledge and skill needs in key clean energy and energy efficiency products, services and advice will be developed;

- specialised skills sets in energy efficiency will be developed for existing workers in building, planning and construction;
- undergraduate engineering students will get the technical skills required to deliver and promote energy efficiency solutions in the workplace; and
- up to \$10 million in funding based on co-investment with industry will be provided to undertake training that supports the use of low emissions technology or clean energy skills.

GE notes the baseline mapping project will:

- map the key occupations and industries responsible for the delivery of energy efficiency products, services and advice;
- determine the key skills requirements in each of these industries;
- assess the availability of nationally accredited VET courses and university courses to address these skills requirements;
- review energy efficiency policies and programs established by the State and territory governments, private training organisations and industry, and consider the most appropriate role for the Commonwealth to ensure that the Clean Energy and Other Skills Package complements existing programs; and
- identify the most effective mechanisms for delivering skills to the existing workforce.

GE believes the industry leadership, government co-investment promoted through the comprehensive National Resources Sector Employment Taskforce (NRSET) and its report, “Resourcing the Future,” provides a good model for the clean (and broader) energy sector.

If GE can provide further information or clarification for the Senate Committee, please contact GE Energy Infrastructure Policy Leader (Australia and New Zealand)

for

Stuart Manifold
Industry Skills Development Leader
Global Growth and Operations
GE Australia & New Zealand