



Smart Energy, Sustainable Future



Media Release

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The Future Energy Professional: Curious, Agile and Disciplined

Individuals, companies and training providers can now refer to a new Skills Framework for Energy and Power. This framework identifies the necessary skills, as well as training needed, to stay relevant in an increasingly digitalised energy sector. It was launched by Minister for Trade and Industry, Mr Chan Chun Sing, today at the Singapore International Energy Week (SIEW) 2018.

2. The energy sector is rapidly evolving, driven by technology developments and climate change. Digital technologies like data analytics and machine learning are employed in new areas such as cybersecurity protection, smart metering and condition monitoring. At the same time, there is a growing impetus to develop greener energy systems.

3. The Skills Framework for Energy and Power captures these developments in Singapore's energy landscape and translates them into key jobs and skills information to support the sector. The framework offers 122 job roles across 11 tracks, including power generation, energy trading and portfolio management, electricity transmission and distribution and energy retail, amongst others.

4. A total of 136 technical skills and competencies and 18 generic skills and competencies were identified in the framework. Some of the critical emerging skills and competencies outlined include demand management operations, operational technology, security design, Internet-of-Things management and digital marketing management.

5. Key information on the sector and relevant training programmes for each job role are also available within the framework. Moving forward, soft skills are just as important as engineering and technical skills. The future energy professional has to be curious, possess a blend of soft and technical skills and be disciplined in both deepening current skills and mastering new ones.

6. The Energy Market Authority (EMA) together with SkillsFuture Singapore (SSG) and Workforce Singapore (WSG), developed the framework in close collaboration with the industry, Institutions of Higher Learning, and the Union of Power and Gas Employees (UPAGE).

7. Individuals can reference the framework to explore their growth opportunities along and across job tracks. The Skills Framework for Energy and Power will also benefit companies in developing training roadmaps and programmes for their employees, and in their hiring processes. Training providers can reference the framework to design and offer relevant curriculum.

8. SP Group, for instance, needed to re-skill workers to assume roles in new work areas such as the installation of electrical and power systems and sustainable solutions. They worked with WSG to develop a Professional Conversion Programme (PCP), incorporating the competencies outlined in the Skills Framework to help workers undergo skills conversion and allow them to assume expanded job roles in the company. One such beneficiary, Mr Mohamed Asadullah bin Mohd Khalid, was a meter reader with SP Group who underwent the PCP. He said the PCP gave him the opportunity to gain new skillsets, and allowed him to enhance his career in a more skilled technician role.

9. Mr Abdul Samad Bin Abdul Wahab, UPAGE General Secretary, said of the updated framework: "This is a timely initiative as the energy sector is increasingly digitalised, decentralised and decarbonised. The Skills Framework for Energy and Power provides clarity on the pathways and competencies for our workforce. This complements the Government's national SkillsFuture movement to build a strong culture of lifelong learning and skills mastery. This will enable Singapore to transform into an innovation-driven economy."

10. More information on the framework can be found at the Powering Lives Portal www.poweringlives.sg and at www.skillsfuture.sg/skills-framework/energyandpower and also in the ANNEXES below.

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About the Energy Market Authority

The Energy Market Authority (EMA) is a statutory board under the Ministry of Trade and Industry. Our main goals are to ensure a reliable and secure energy supply, promote effective competition in the energy market and develop a dynamic energy sector in Singapore. Through our work, EMA seeks to forge a progressive energy landscape for sustained growth. Visit www.ema.gov.sg for more information.

About SkillsFuture Singapore

SkillsFuture Singapore (SSG) drives and coordinates the implementation of the national SkillsFuture movement, promotes a culture of lifelong learning and strengthens the ecosystem of quality education and training in Singapore. Through a holistic system of national SkillsFuture initiatives, SSG enables Singaporeans to take charge of their learning journey in their pursuit of skills mastery. SSG also works with key stakeholders to ensure that students and adults have access to high quality and industry-relevant training that meet the demands of different sectors of the economy for an innovative and productive workforce.

For more information, visit www.ssg.gov.sg.

About Workforce Singapore

Workforce Singapore promotes the development, competitiveness, inclusiveness, and employability of all levels of the workforce. Its key mission is to enable Singaporeans to meet their career aspirations, take on quality jobs at different stages of life, and help enterprises be competitive and manpower-lean. Workforce Singapore's focus is on strengthening the Singaporean core and ensuring that Singaporeans are able to have better jobs and careers. Workforce Singapore, in partnership with key stakeholders, also provides support to business owners and companies to enable them to transform and grow, while building a future-ready workforce. For more information, please visit www.wsg.gov.sg.

About the Skills Framework for Energy and Power

The **Skills Framework for Energy and Power** will be a reference for the energy sector to guide:

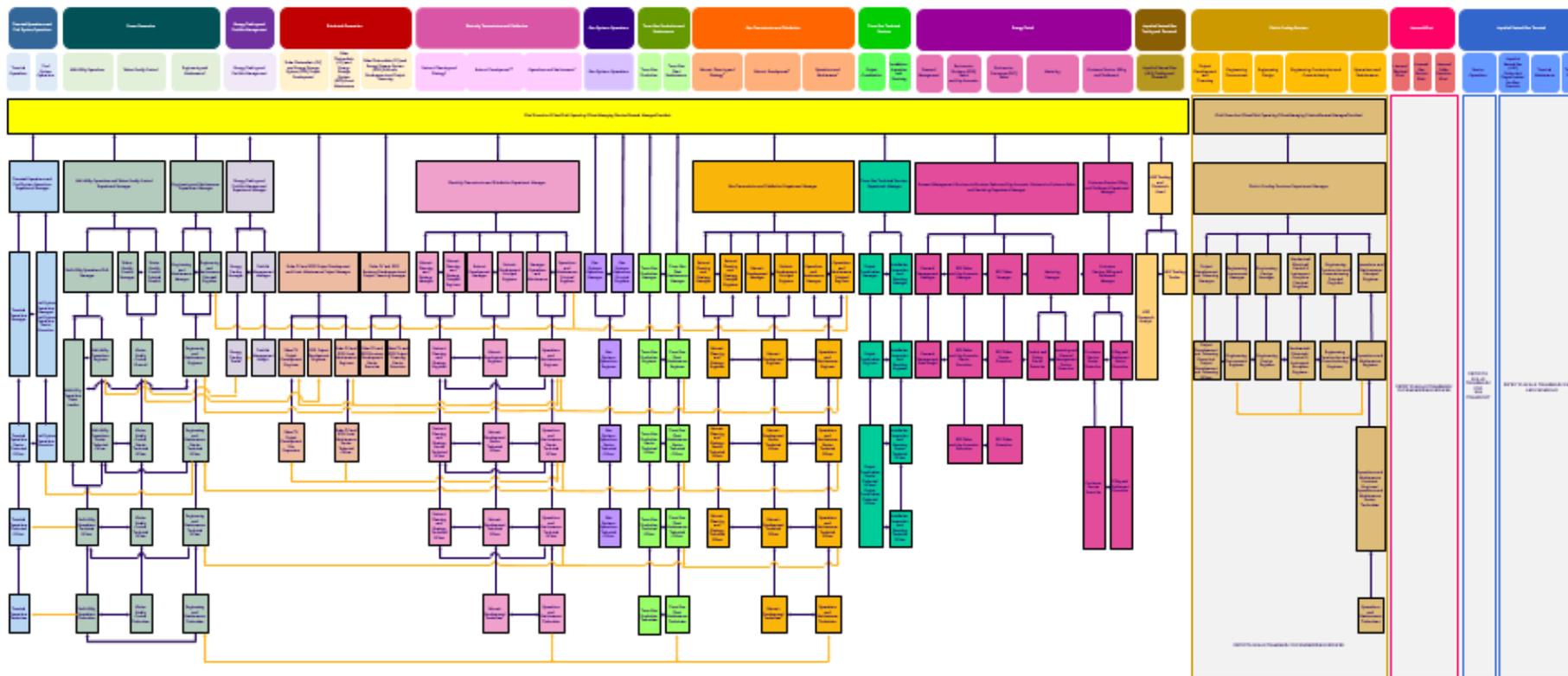
- Individuals in making informed decisions on career development, progression and education;
- Human resource policies in talent attraction, retention and staff development;
- Institutes of Higher Learning and training providers in aligning their curriculum for both pre-employment training and Continuing Education Training to benefit mid-career professionals and students who are interested to join the energy sector;
- Employees and industry players in staying relevant in terms of job roles, skills, competencies, and attributes in light of the emerging trends.

Below is a short description of the career tracks.

Career Tracks	Descriptions
Terminal Operations and Fuel System Operations	Involves the movement and storage of oil or cargo in power generation facilities and shipping terminals to ensure that oil of suitable quantity and quality is stored for clients or transported to the power generation station to generate electricity.
Power Generation	Involves the operation and maintenance of power generation facilities to produce electricity, whilst ensuring that the quality of water in the facility's equipment is maintained to optimal standards.
Energy Trading and Portfolio Management	Involves the buying and selling electricity and oil in the short and long term for capital gains or to optimise the organisation's portfolios whilst managing associated risks.
Distributed Generation	Involves the management of solar PV and ESS installation projects, from selling and financing to implementation, as well as the maintenance of the installed infrastructure.

Electricity Transmission and Distribution	Involves the management of electricity transmission and distribution infrastructure through planning, construction, operations and maintenance to ensure a reliable supply of electricity in Singapore.
Gas Systems Operations	Involves monitoring the supply and demand of gas in Singapore to predict and resolve imbalances.
Town Gas Production and Plant Maintenance	Involves the operation and maintenance of town gas plant facilities to produce town gas.
Gas Transmission and Distribution	Involves the management of gas transmission and distribution infrastructure through planning, construction, operations and maintenance to ensure a reliable supply of gas in Singapore.
Town Gas Technical Services	Involves the coordination of installation projects for gas equipment through budgeting, procurement and stakeholder relations, and the inspection and servicing of installed equipment.
Energy Retail	Involves the marketing, pricing and selling of electricity, gas and/or demand management service products to customers, and the provision of customer service to drive customer satisfaction levels and resolve billing and settlement issues.
Liquefied Natural Gas (LNG) Trading and Research	Involves the buying and selling of LNG to take advantage of price volatilities in the market and generate revenue for the firm.

Illustration of Career Progression Pathways for the Energy Sector



The Career Map serves as a reference to reflect the available job roles and possible career pathways in the Energy and Power sectors, which may vary depending on each company's structure and business model. The career progression pathways would depend on individual performance, capability, opportunities, as well as company needs.

- 1 Includes specializations for Mechanical, Electrical, Instrumentation and Control
- 2 Includes specializations for Transmission and Distribution Network Planning, Transmission and Distribution Engineering, Network Performance, Asset Strategy and Project Management
- 3 Includes specializations for Transmission and Distribution Network Projects, Communications Infrastructure and Customer Projects
- 4 Includes specializations for Facilities Management, Network Monitoring and Control Protection, Power Quality and Demand Management, Liquid Systems and Communications Services, SCADA, Distribution Control and Customer Services, Network Protection, Network Support Services, Condition Monitoring and Transmission and Distribution Network Operations and Establishment
- 5 Includes specializations for Transmission and Distribution Network Projects and Planning
- 6 Includes specializations for Network Planning and Asset Strategy
- 7 Includes specializations for System Operations and Maintenance, Gas Inspection and Leak Survey
- 8 Includes specializations for Gas Insulated Switchgear (GIS), Key Tools (KTs), Technical Skills and Competencies (TSC) and Safety Skills Competencies (SSC) also applicable to other modes (Biodiesel, Gas and Water)

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