7.2.4 Emerging job roles dashboards

Solar Engineer

Estimated Time Horizon: Short-term

Trends Impacting This Role

- Technology trends such as BIM Technology and 5G, IoT & Smart Buildings.
- Megatrends i.e., Sustainable Construction/ Buildings.

Other Considerations

Companies looking to incorporate sustainable energy practices i.e., solar energy solutions in their Design & Construction processes, can leverage the expertise of this specialised job role.

Responsibilities of the Role

The Solar Engineer is responsible for the design, installation, execution and management of solar technologies and solar photovoltaic (PV) systems, which include energy storage systems, and solutions. The job holder will also be responsible for working with external or internal teams, such as clients, contractors, vendors or procurement teams to coordinate the efforts required to execute and incorporate solar PV projects into the company.

Job Tasks

- Conduct site visits to collect relevant information to support the designing of commercial and utility-scale solar power systems
- Plan, design, install and execute various solar energy systems and solar PV projects for residential and commercial buildings
- Analyse solar system designs for simulation and testing and coordinate the layout of components for optimisation of solutions with computer-aided design (CAD) software
- Establish checklists for review and/or inspection of ongoing and completed solar installation projects

Technical Skills and Competencies

3D Modelling	Building Information Modelling Application	Computational Design	Construction Technology
Continuous Improvement Management	Data Collection and Analysis	Environmental Sustainability Management	Green Building Strategy Implementation
Integrated Digital Delivery Application	Material Studies and Production Processes	Project Feasibility Assessment	Project Risk Management
Quality System Management	Regulatory Submission and Clearance	Renewable Energy System Management and Integration	Robotic and Automation Technology Application
Site Assessment and Analysis	Solar Photovoltaic Energy Assessment	Solar Photovoltaic Systems Design	Stakeholder Management
Structural Testing	Sustainable Engineering	Technical Inspection	Technical Presentation
Technical Writing	Technology Application		

Critical Core Skills

Collaboration	Communication	Problem Solving	Transdisciplinary Thinking

Note: *Skills highlighted are not exhaustive but have been preliminarily identified as potentially most pertinent to the job role and may be adjusted based on individual organisational strategy and needs.*

7.2.5 Reskilling roadmaps

Solar Engineer

1 Civil and Structural Engineer

Engineering Consultancy & Design

Solar Engineer

1 Mobility Option	Potential Transferable Skills	Additional Skills to Develop
Civil and Structural Engineer Engineering Consultancy & Design	▸ Building Information Modelling Application ▸ Computational Design ▸ Construction Technology ▸ Data Collection and Analysis ▸ Environmental Sustainability Management ▸ Green Building Strategy Implementation ▸ Integrated Digital Delivery Application ▸ Project Risk Management ▸ Regulatory Submission and Clearance ▸ Stakeholder Management ▸ Sustainable Engineering ▸ Technology Application	▸ 3D Modelling ▸ Continuous Improvement Management ▸ Material Studies and Production Processes ▸ Project Feasibility Assessment ▸ Quality System Management ▸ Renewable Energy System Management and Integration ▸ Robotic and Automation Technology Application ▸ Site Assessment and Analysis ▸ Solar Photovoltaic Energy Assessment ▸ Solar Photovoltaic Systems Design ▸ Structural Testing ▸ Technical Inspection ▸ Technical Presentation ▸ Technical Writing