7.2.4 Emerging job roles dashboards

Climate-Change Response Engineer

Estimated Time Horizon: Short-term

Trends Impacting This Role

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

Other Considerations

Contractors keen on addressing the consequences of climate change and mitigate further damage to Design & Construction systems and processes can leverage this specialised job role.

Responsibilities of the Role

The Climate-Change Response Engineer will work with the team to design and implement immediate, short-term solutions that promptly addresses the detrimental effects of climate change. The job holder is also responsible for utilising information technologies to enable greener construction and production processes to address environmental degradation, in the short-term. The job holder will employ technology solutions to predict environmental impacts and implement restorative measures.

Job Tasks

- Develop short-term, immediate initiatives to address environmental impacts of climate change while increasing the usage of environmentally friendly materials
- Employ information technologies i.e., IoT, to provide input on and enable transformation of climate change-related damage through adoption of greener production systems and processes
- Monitor and assess the effectiveness of climate change response solutions against targets set, to determine whether objectives are being met
- Maintenance and continuous enhancement of climate change response initiatives, systems and processes

Technical Skills and Competencies

3D Modelling	Analytics and Computational Modelling	Artificial Intelligence Application	Biophilic Design in Built Environment
Building Information Modelling Application	Climate Change Management	Civil and Structural Engineering Management	Coastal Engineering
Continuous Improvement Management	Design for Maintainability	Design Thinking Practice	Environmental Sustainability Management
Geotechnical Engineering Management	Green Building Strategy Implementation	Hydrodynamic and Flood Mitigation	Integrated Digital Delivery Application
Material Studies and Production Processes	Natural Ventilation Design	Project Risk Management	Quality System Management
Regulatory Submission and Clearance	Site Assessment and Analysis	Solar Photovoltaic Systems Design	Structural Testing
Sustainable Engineering	Tunnel Engineering Management	Value Analysis	Value Engineering

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.*

7.2.4 Emerging job roles dashboards

Climate-Change Response Engineer

Estimated Time Horizon: Short-term

Critical Core Skills

Collaboration	Communication	Customer Orientation	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

Climate-Change Response Engineer

1 Civil and Structural Engineer

Engineering Consultancy & Design

Climate-Change Response Engineer

1 Mobility Option	Potential Transferable Skills	Additional Skills to Develop
Civil and Structural Engineer Engineering Consultancy & Design	▸ Analytics and Computational Modelling ▸ Biophilic Design in Built Environment ▸ Building Information Modelling Application ▸ Civil and Structural Engineering Management ▸ Coastal Engineering ▸ Design for Maintainability ▸ Environmental Sustainability Management ▸ Green Building Strategy Implementation ▸ Hydrodynamic and Flood Mitigation ▸ Integrated Digital Delivery Application ▸ Project Risk Management ▸ Regulatory Submission and Clearance ▸ Sustainable Engineering ▸ Tunnel Engineering Management	▸ 3D Modelling ▸ Artificial Intelligence Application ▸ Climate Change Management ▸ Continuous Improvement Management ▸ Design Thinking Practice ▸ Geotechnical Engineering Management ▸ Material Studies and Production Processes ▸ Natural Ventilation Design ▸ Quality System Management ▸ Site Assessment and Analysis ▸ Solar Photovoltaic Systems Design ▸ Structural Testing ▸ Value Analysis ▸ Value Engineering