

## 7. Electricity, Water and Waste Services Sector



All statistical data are courtesy of: Department of Industry and Science, Australian Government, and Business Council of Australia.

### Overview

The Electricity, Gas, Water and Waste Services sector is responsible for providing households with essential power, water and waste removal services. Hundreds of thousands of kilometres of pipes, poles and wires extend electricity, gas, water, drainage and waste services across Australia's landmass. Utilities (water, electricity and gas) are essential services that play a vital role in economic and social development. Quality utilities are a prerequisite for effective poverty eradication.

### Sector information

According to the 2011 census, 115,608 people were working in Electricity, Gas, Water and Waste Services with a growth rate of 2.5% per annum. The electricity sector is responsible for the generation of electricity as well as its transmission and distribution. It is also responsible for arranging the sale of electricity via power distribution systems operated by others. Over 90% of national energy is currently coming from the burning of fossil fuels. The Gas sector pipes gas from the point of extraction and refinement through mains pipeline systems. It is a major supplier of energy to homes and factories delivering around 30% of industry energy needs and 20% of domestic needs.

Water supply, Sewerage and Draining Services are responsible for the bulk storage, treatment and distribution of water through a system of piping stations, aqueducts and the water mains. They also operate sewerage systems, drainage systems and sewage treatment plants.

### Electricity, Gas, Water and Waste services subsectors:

1. Extraction/Generation
2. Machinery\*
3. Piping systems\*
4. Electrical Wiring
5. Civil Projects (Sewerage, drainage and water storage)

\*Indicates that potential employment opportunities exist in the sub sector for automotive engineers transitioning

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### High level skill mapping

Electricity, Gas, Water & Waste Services Sub sectors	Extraction/Generation	Machinery	Piping systems	Electrical wiring	Civil Projects (Sewerage, drainage and water storage)	Roles and Skills					
Mechanical Engineer	X	X	X	X							
Electrical Engineer	X	X		X							
Software Engineer	X	X									
Control Systems Engineer	X	X	X	X	X						
Data Analysis	X	X	X		X						
Problem Solving	X	X	X	X	X						
Research & Development	X	X		X	X						
Design and Development	X	X		X	X						
CAD and 3D modeling	X	X		X	X						
CAE (Simulation and Analysis)		X		X	X						
Product Development		X		X	X						
Product Engineering	X	X	X	X	X						
Production Engineering	X		X	X							
Testing	X	X		X	X						
Validation Engineering	X		X	X	X						
Vendor Management	X			X	X						
Quality Engineering	X	X		X	X						
Project Management	X	X	X	X	X						
Technical Sales Engineering	X		X								
Maintenance	X	X		X	X						
Business Development	X	X	X	X							
Business Management	X	X	X	X	X						
Strategic Planning	X	X	X	X	X						
Leading Teams	X	X	X	X	X						

## Potential Opportunities and Synergy

Subsector	Potential opportunity Areas	Job Synergy
Extraction/Generation	Machinery operations, Project Management, Development process	Still demand for machinery operation experts.
Machinery	Project management, maintenance, machinery operations	Considerable demand for process driven engineers with background in machinery operations, maintenance and project management.
Piping Systems	Problem solving, CAD and 3D modelling, Strategic Planning	Considerable demand for piping and planning experts.
Electrical Wiring	Design and development, Production, modelling, Strategic Planning, etc.	Increasing demand for design and development, experience in wiring and planning area.
Civil Projects (Sewerage, drainage and water storage)	Facility management, piping, maintenance and project planning	Demand for facility managers, installation and piping drainage experts.