

**POWER ENGINEERING COMPETENCY FRAMEWORK FOR POWER ENGINEERING PROFESSIONALS IN PUBLIC SERVICE  
TECHNICAL SKILLS & COMPETENCIES (TSC) REFERENCE DOCUMENT**

<b>TSC Category</b>	Decarbonisation					
<b>TSC Title</b>	Environmental Sustainability Management					
<b>TSC Description</b>	Manage environmental impact of operations through the development, implementation and review of sustainability strategies and programmes that conserve energy and reduce carbon footprint					
<b>TSC Proficiency Description</b>	<b>Level 1</b>	<b>Level 2</b>	<b>Level 3</b>	<b>Level 4</b>	<b>Level 5</b>	<b>Level 6</b>
			<Insert TSC Code>	<Insert TSC Code>	<Insert TSC Code>	<Insert TSC Code>
			Analyse energy consumption, carbon emissions and other relevant indicators for assessing the environmental impact of operations	Develop innovative ways to conserve energy, and reduce carbon emissions in line with the agency's sustainability strategies	Evaluate effectiveness of green process designs and sustainability programmes in managing the environmental impact of operations	Establish and propagate the agency's environmental sustainability values, strategies, and programmes
<b>Knowledge</b>			<ul style="list-style-type: none"> <li>National Environment Agency (NEA) regulations on pollution control</li> <li>Types of emissions and pollutions generated through operations</li> <li>Types of hazardous substances used in operations</li> <li>Types of equipment used for measuring carbon emissions and other elements impacting the environment</li> <li>Methods of collecting and analysing data</li> </ul>	<ul style="list-style-type: none"> <li>Legislative green codes, regulations and industry guidelines</li> <li>Methods to minimise carbon emissions and conserve energy used in operations</li> <li>New industry trends, technologies and innovations in environmental sustainability</li> <li>Best practices and trends in green initiatives</li> <li>Methods of conducting environmental modelling</li> <li>Facility's products and workflow processes</li> <li>Principles of green chemistry</li> </ul>	<ul style="list-style-type: none"> <li>Legislative green codes, regulations and industry guidelines</li> <li>New industry trends, technologies and innovations in environmental sustainability</li> <li>Best practices and trends in green initiatives</li> <li>Site management operating procedures</li> <li>Cost and operational implications of green initiatives</li> <li>Business impact of different green initiatives and technologies in the industry</li> <li>Pros, cons and applications of different environmental modelling software and techniques</li> <li>Business case formulation techniques</li> </ul>	<ul style="list-style-type: none"> <li>Legislative green codes, regulations and industry guidelines</li> <li>Agency's vision, mission and values</li> <li>New industry trends, technologies and innovations in environmental sustainability</li> <li>Best practices and trends in green initiatives</li> <li>Macro factors impacting the demand or need for environmentally friendly operating processes</li> <li>Methods of establishing clean energy initiatives</li> <li>Business case formulation techniques</li> <li>Principles of change management</li> <li>Methods of ensuring long-term sustainability of new processes</li> <li>Research and development (R&amp;D) processes in green initiatives</li> </ul>

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<p><b>Abilities</b></p>			<ul style="list-style-type: none"> <li>• Identify relevant data for calculating energy consumption and carbon emissions</li> <li>• Collaborate with stakeholders to collect relevant data according to business priorities</li> <li>• Operate energy consumption and carbon emissions measuring equipment as per specified procedures</li> <li>• Apply appropriate data analysis tools and software to conduct environmental modelling</li> </ul>	<ul style="list-style-type: none"> <li>• Suggest interventions to reduce energy consumption and carbon emissions</li> <li>• Guide the development of operational processes that reduce energy consumption and environmental impact, or conserve energy</li> <li>• Select appropriate environmental modelling tools and software</li> <li>• Collaborate with research and development (R&amp;D) function to identify alternative sources of materials and processes for greater sustainability</li> <li>• Identify areas of improvement</li> </ul>	<ul style="list-style-type: none"> <li>• Evaluate feasibility and impact of different types of green initiatives against any cost or operational implications</li> <li>• Facilitate the review of procedures and processes to align with green initiatives</li> <li>• Evaluate operational process design parameters and suggest improvements to drive green initiatives</li> <li>• Drive collaboration between research and development (R&amp;D) and organisational functions to find green solutions</li> </ul>	<ul style="list-style-type: none"> <li>• Formulate green initiatives aligned to the vision, mission and values of the agency</li> <li>• Establish the department's priorities in green initiatives and environmental impact management</li> <li>• Drive innovation in areas aligned to reducing the negative environmental impact</li> <li>• Develop business cases to implement environmentally friendly business practices</li> </ul>
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