## CAPABILITY AREAS

Please review the capability areas prior to completing your Response Form

<table>
<thead>
<tr>
<th>Number</th>
<th>Name</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Data collection</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>2</td>
<td>Data analysis and modelling</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>3</td>
<td>Community stakeholder consultation, engagement and social assessment</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>4</td>
<td>Risk Assessment and Mitigation</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>5</td>
<td>Review and development of policy documents, codes of practices, regulatory standards and guidelines and estimation methodologies</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>6</td>
<td>Environmental monitoring and evaluation</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>7</td>
<td>Economics</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>8</td>
<td>Engineering</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>9</td>
<td>Research</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>10</td>
<td>Program evaluation/administration/assessment</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>11</td>
<td>Water quality</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>12</td>
<td>Hydrology</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>13</td>
<td>Groundwater</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>14</td>
<td>Surface water</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>15</td>
<td>Terrestrial, aquatic and marine ecosystem health and conservation planning</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>16</td>
<td>Environment impact assessment</td>
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</tr>
<tr>
<td>17</td>
<td>Biodiversity and natural resource management</td>
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</tr>
<tr>
<td>18</td>
<td>Climate change adaptation</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>19</td>
<td>Air quality</td>
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</tr>
<tr>
<td>20</td>
<td>Climate system science</td>
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<tr>
<td>21</td>
<td>Ecosystem restoration</td>
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</tr>
<tr>
<td>22</td>
<td>Geomorphology</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>23</td>
<td>Data sampling, analysis and testing</td>
<td>☐ Yes ☐ No</td>
</tr>
<tr>
<td>24</td>
<td>Greenhouse gas emissions</td>
<td>☐ Yes ☐ No</td>
</tr>
</tbody>
</table>
PART 3.1 – REQUIRED CAPABILITY 1: DATA COLLECTION

D.C.3.1.1 Lead Customer’s Detailed Description of Required Capability 1

- Data collection carried out through field assessments, including but not limited to, observation, sketching and measurements.
- Data collection carried out through remote sensing analysis.
- Data collection through other methodologies including paper surveys, face-to-face, telephone, and the internet.
- Manage data collection projects.
- Review, supply or design survey instruments and procedures.
- Capture, store, clean, code and prepare documentation for data.
- Conduct needs analysis.

PART 3.2 – REQUIRED CAPABILITY 2: DATA ANALYSIS AND MODELLING

D.C.3.2.1 Lead Customer’s Detailed Description of Required Capability 2

- Undertake data analysis and modelling.
- Information synthesis and analysis.
- Undertake modelling of emissions.
- Undertake modelling of population exposure.
- Undertake health impact assessments.

PART 3.3 – REQUIRED CAPABILITY 3: COMMUNITY STAKEHOLDER CONSULTATION, ENGAGEMENT AND SOCIAL ASSESSMENT

D.C.3.3.1 Lead Customer’s Detailed Description of Required Capability 3

- Negotiation and influencing.
- Presentation and representation.
- Building and managing relationships.
- Managing the public, private and community sector interface.
- Conducting community consultations.
- Managing in a culturally diverse environment.
- Managing in a multi-generational environment.
- Designing, facilitating and conducting engagement activities to input to socio-economic analysis.
PART 3.4 – REQUIRED CAPABILITY 4: RISK ASSESSMENT AND MITIGATION

D.C.3.4.1 Lead Customer’s Detailed Description of Required Capability 4

- Promoting the use of and reference to the Department’s risk management resource materials to support risk management activities.
- Assisting with reviewing or evaluating business units risk management strategies and plans.
- Provide advice and recommendations for improvement consistent with better practice.

PART 3.5 – REQUIRED CAPABILITY 5: REVIEW AND DEVELOPMENT OF POLICY DOCUMENTS, CODES OF PRACTICES, REGULATORY STANDARDS AND GUIDELINES AND ESTIMATION METHODOLOGIES

D.C.3.5.1 Lead Customer’s Detailed Description of Required Capability 5

- Provide expert advice on program and/or policy evaluation.
- Review and/or develop greenhouse gas emission estimation methodologies.

PART 3.6 – REQUIRED CAPABILITY 6: ENVIRONMENTAL MONITORING AND EVALUATION

D.C.3.6.1 Lead Customer’s Detailed Description of Required Capability 6

- Design or review evaluation plans and frameworks including program logics and performance indicators.
- Conduct evaluations.
- Manage evaluation projects within time constraints including contract management.
- Report and/or present evaluation outcomes to departmental audiences.
- Publish and present evaluation outcomes to a wide range of audiences subject to the conditions for use of contract material.
- Design and review monitoring plans.
- Publish and present monitoring outcomes to a wide range of audiences subject to the conditions for use of contract material.
- Report and/or present monitoring outcomes to departmental audiences.
PART 3.7 – REQUIRED CAPABILITY 7: ECONOMICS

D.C.3.7.1 Lead Customer’s Detailed Description of Required Capability 7

- Economic impacts and implications of environmental management and planning.
- Design, facilitate and conduct engagement activities to input to socio-economic analysis.
- Assessment of interaction and integration of economic and environmental factors.
- Cost benefit analysis and regulatory impact statement expertise.

PART 3.8 – REQUIRED CAPABILITY 8: ENGINEERING

D.C.3.8.1 Lead Customer’s Detailed Description of Required Capability 8

- Study the effect of technological advances on the environment.
- Conduct hazardous-waste management studies to;
  - evaluate the significance of such hazards
  - advise on treatment and containment
  - develop regulations to prevent mishaps.
- Provide water resources management, bioremediation, and water treatment plant design.
- Provide technical advice or evaluate proposals related to environmental, mining, civil or geoscience engineering disciplines.
- Provide air and water treatment technologies and separation processes.
- Capability in tools, techniques and assessments to inform planning and management decision-making.

PART 3.9 – REQUIRED CAPABILITY 9: RESEARCH

D.C.3.9.1 Lead Customer’s Detailed Description of Required Capability 9

- Design and/or review research proposals.
- Conduct quantitative, qualitative and/or action research.
- Manage research projects within time constraints including contract management.
- Provide technical advice, support or guidance on social policy research.
- Disseminate research findings to departmental audiences through reports and presentations.
- Publish and present research findings to a wide range of audiences subject to the conditions for use of contract material.
- Provision and supervision of research conducted by postgraduate students or junior staff of a Service Provider.
- Design and use of survey instruments, data collection and data analysis.
PART 3.10 – REQUIRED CAPABILITY 10: PROGRAM EVALUATION/ADMINISTRATION/ASSESMENT

D.C.3.10.1 Lead Customer’s Detailed Description of Required Capability 10

- Assess the performance of programs against stated objectives.
- Assess the impact or outcomes of a program.
- Provide information about implementation, operation or delivery with a view to improvements of program functions.
- Clarify the structure, operation or delivery of a program.
- Identify and report on better practice initiatives.

PART 3.11 – REQUIRED CAPABILITY 11: WATER QUALITY

D.C.3.11.1 Lead Customer’s Detailed Description of Required Capability 11

Understanding of the physical, chemical and biological aspects of water quality and the impacts on human and environmental systems. This may include the ecotoxicology of chemicals in fresh and marine waters and the relationships between land use and water quality.

Expertise may be required, in relation to water quality, to review information and modelling in the National Water Quality Management Strategy, in particular the ongoing development of the Fresh and Marine Quality Guidelines and the Great Barrier Reef World Heritage area.

PART 3.12 – REQUIRED CAPABILITY 12: HYDROLOGY

D.C.3.12.1 Lead Customer’s Detailed Description of Required Capability 12

Capability in tools, techniques and assessments to inform planning and management decision making in relation to surface and groundwater resources. Research and analysis into change of surface and groundwater supplies.

PART 3.13 – REQUIRED CAPABILITY 13: GROUNDWATER

D.C.3.13.1 Lead Customer’s Detailed Description of Required Capability 13

Understanding of groundwater, groundwater dependent ecosystems, groundwater surface water connectivity and integration of this into water, natural resource management and biodiversity. Assessments are required to determine if Environment Protection and
Biodiversity Conservation (EPBC) referred actions will impact on a Matter of National Environmental Significance (MNES). This may include reviewing:

- water balance models
- monitoring regimes
- data collection methodology
- water pressure and drawdown
- impacts to ground water dependent ecosystems (GDEs)
- effects from subsidence
- cumulative impacts
- mitigation measures
- implications of climate change for groundwater reserves.

**PART 3.14 – REQUIRED CAPABILITY 14: SURFACE WATER**

D.C.3.14.1 Lead Customer’s Detailed Description of Required Capability 14

Understanding of surface water such as:

- streams
- rivers
- lakes
- wetlands
- oceans.

Improve understanding of surface water dependent ecosystems, groundwater to surface water connectivity and the integration of this understanding into water, natural resource management and biodiversity.

Assessments are often required to determine if EPBC referred actions will impact on a MNES. This may include reviewing:

- water balance models
- monitoring regimes
- data collection methodology
- water pressure and drawdown
- impacts to surface water dependent ecosystems
- effects from subsidence
- cumulative impacts
- mitigation measures
- implications of climate change for surface water resources.
PART 3.15 – REQUIRED CAPABILITY 15: TERRESTRIAL, AQUATIC AND MARINE ECOSYSTEM HEALTH AND CONSERVATION PLANNING

D.C.3.15.1 Lead Customer’s Detailed Description of Required Capability 15

Understanding of terrestrial, aquatic and marine ecosystems including their economic, social and cultural values, responses to watering regime options and integration of this understanding into water, natural resource management and biodiversity conservations planning. This may include:

- restoration ecology
- conservation biology
- conservation genetics
- biogeography
- phylogeography landscape ecology
- ecological connectivity
- wildlife ecology
- wildlife conservation management
- adaptive management
- coastal ecology and management
- soil science
- aquatic ecology
- wetland ecology
- vegetation ecology/science and management
- reserve management
- ecological modelling
- adaptation to climate change
- Great Barrier Reef World Heritage Area health
- resilience indicators.

Provide technical expertise (and/or modelling) for marine dredging and sea dumping that will inform any potential impacts on MNES, human health and surrounding marine and coastal environments. This includes cumulative impacts in the marine, aquatic and terrestrial environments. Sea dumping advice requires adherence with international obligations e.g. London Protocol 1996.
PART 3.16 – REQUIRED CAPABILITY 16: ENVIRONMENT IMPACT ASSESSMENT

D.C.3.16.1 Lead Customer’s Detailed Description of Required Capability 16

Demonstrated knowledge, assessment and management of impacts on matters of national environmental significance and biodiversity to support roles and responsibilities under the EPBC Act 1999. This may include:

- input to support assessment of nominations for MNES or other EPBC listings
- prioritisation of assessments
- input into activity and program assessment
- fishery assessments
- wildlife permitting
- setting of conditions

Experts that may be required, but not limited to:

- Hydrogeologists
- Hydrologists
- Marine Biologists
- Ecologists
- Engineers
- Species Experts
- Heritage Experts
- Geologists
- Archaeologists
- Indigenous Heritage Experts
- Social Researchers
- Ecosystem Modellers.

PART 3.17 – REQUIRED CAPABILITY 17: BIODIVERSITY AND NATURAL RESOURCE MANAGEMENT

D.C.3.17.1 Lead Customer’s Detailed Description of Required Capability 17

Understanding of protecting and the threats associated with biodiverse terrestrial, marine and aquatic ecology, and the ability to provide professional services advising on these areas, including:

- sustainable agriculture
- forest management
- ecosystem services
- environmental planning and governance
- fishery management
- recovery
- threat abatement
- conservation planning (spp. multiple spp. regions and values)
• climate change impacts, adaptation and heritage management plans and evaluation
• trans boundary planning
• habitat (ecological) connectivity.

**PART 3.18 – REQUIRED CAPABILITY 18: CLIMATE CHANGE ADAPTATION**

D.C.3.18.1 Lead Customer’s Detailed Description of Required Capability 18

Understanding of the risks to Australia from the impacts of climate change and strategies to manage these risks. This may include:

- Research on the nature, magnitude and timing of a broad range of observed and potential climate change impacts.
- The roles of different parties in managing risks from climate change impacts.
- Tools for assessing options for managing climate change impacts.
- Adaptation options and strategies for developing and implementing climate change strategies.

An understanding of the role of institutions, markets and attitudes in shaping adaptation responses and the economics of climate adaptation.

**PART 3.19 – REQUIRED CAPABILITY 19: AIR QUALITY**

D.C.3.19.1 Lead Customer’s Detailed Description of Required Capability 19

Understanding of the parameters that affect air quality and how this occurs. The impacts air quality parameters and/or pollutants have on human health and the environment, including their inter-relationships with each other and other factors. This may include:

- Analysis of observational data to detect long term trends.
- Modelling to predict possible future changes or trends.

**PART 3.20 – REQUIRED CAPABILITY 20: CLIMATE SYSTEM SCIENCE**

D.C.3.20.1 Lead Customer’s Detailed Description of Required Capability 20

Understanding of interactions in the climate system (atmosphere, ocean, biosphere, land, cryosphere) and the implications of a changing global climate system for Australia's climate. This may include:

- Analysis of observational data to detect long term climate trends.
- Investigation of physical and biogeochemical aspects of the climate system.
- Modelling studies to predict possible future changes.
### PART 3.21 – REQUIRED CAPABILITY 21: ECOSYSTEM RESTORATION

**D.C.3.21.1 Lead Customer’s Detailed Description of Required Capability 21**

Understanding terrestrial and aquatic ecosystem establishment and sustainability, ecosystem performance and monitoring techniques for ecosystem restoration. Assessment of mine site rehabilitation using Remotely Piloted Aircraft Systems (RPAS), including RPAS data processing and analysis for ecosystem assessment.

### PART 3.22 – REQUIRED CAPABILITY 22: GEOMORPHOLOGY

**D.C.3.22.1 Lead Customer’s Detailed Description of Required Capability 22**

Understanding why landscapes look the way they do, landform history and dynamics and to predict changes through a combination of field observations, physical experiments and numerical modelling. This includes how the physical, chemical and biological topographic features are formed and their processes.

### PART 3.23 – REQUIRED CAPABILITY 23: DATA SAMPLING, ANALYSIS AND TESTING

**D.C.3.23.1 Lead Customer’s Detailed Description of Required Capability 23**

Capability in:
- Collecting, inspecting, cleaning, transforming and modelling data to support decision making.
- Data mining and predictive analysis.
- Collection, lab testing and reporting on chemical, substance and gas materials.

### PART 3.24 – REQUIRED CAPABILITY 24: GREENHOUSE GAS EMISSIONS

**D.C.3.24.1 Lead Customer’s Detailed Description of Required Capability 24**

**Energy and Industrial Sector**

Understanding of processes and practices that lead to or affect the greenhouse gas emissions (GHG) from the Energy and Industrial Sectors. This may include:
• The review and development of methodologies for estimating GHG emissions.
• Collection and/or analysis of data to support methodologies.
• Provisions of expert advice and support.

The Energy and Industrial Sectors cover emissions relating to:
• Fuels combusted for non-transport purposes such as;
  o electricity and heat production
  o petroleum refining
  o manufacturing.
• Combustion and evaporation of fuels for all transport activities.
• Intentional or unintentional emissions arising from the production, processing, transmission, storage and use of fuels.
• Capture and transport carbon dioxide emissions from large point emission sources such as power stations, industrial facilities or natural gas production, and its injection into deep geological formations for permanent storage.
• Industrial processes from the use of GHSs in products and from non-energy uses of fossil fuel carbon.

The main emission sources are released from industrial process that chemically or physically transform materials. In addition, GHGs are often used in products such as refrigerators, foams or aerosol cans.

**Agricultural Land Use Sector**

Understanding of processes and practices that lead to or affect the greenhouse gas emissions and removals from the Agricultural and Land Use Sectors. This may include:
• The review and development of methodologies for estimating GHG emission and removals.
• Collection and/or analysis of data to support methodologies.
• Provision of expert advice and support.

The Agriculture and Land Use Sectors cover emissions relating to:
• Enteric fermentation.
• Manure management.
• Rice cultivation.
• The addition of nitrogen and lime to soils.
• The burning of savannas and crop residues.
• Land use.
• Land use change.
• Forestry such as;
  o on forest land
  o cropland
  o grassland
  o wetlands
  o settlements
  o other land.

**Waste Sector**

Understanding of processes and practices that lead to or affect the greenhouse gas emissions from:
• solid waste disposal
• biological treatment of solid waste
• incineration and open burning of waste
• wastewater treatment and discharge.

This may include:
- The review and development of methodologies for estimating GHG emissions.
- Collection and/or analysis of data to support methodologies.
- Provision of expert advice and support.

**Transport Sector**

Understanding of the technologies, equipment, processes and practices that lead to/affect the greenhouse gas emissions from the Transport Sector across all transport modes, and data related to this sector.

This may include:
- The review and development of methodologies for estimating GHG emissions.
- Collection and/or analysis of data to support methodologies.
- Provision of expert advice and support.