Climate—EIS information guideline

Introduction

This guideline advises proponents about the information requirements in relation to climate when preparing an environmental impact statement (EIS).

For information on greenhouse gases, refer to the Department of Environment and Science's (the department's) guideline Air—EIS information guideline (DES 2020).

Existing climate

Provide data and statistics for rainfall, wind speed and direction, air temperature, evaporation, humidity, and atmospheric pressure. Include monthly, seasonal and long-term averages, medians and other percentiles, and ranges. Illustrate the data and statistics with maps, graphs, bar charts, wind roses, and other relevant graphics. As much as possible, use data obtained at or near to the project site. Where site-specific data is lacking, use data from the Bureau of Meteorology and/or the Queensland Government's SILO (Scientific Information for Land Owners) database.

Describe the local and regional climate with regard to its seasons and its susceptibility to extreme events such as droughts, cyclones, and other major rainfall and wind events. Include the frequency and magnitude of major weather events.

Assess what aspects of the local and regional climate are relevant for the management of the project, with particular regard to: propagation of noise; discharges of contaminants to air, water and land; floods; bushfires; and water supply to the project during drought. Include such matters as temperature inversions (which might affect both air quality and the propagation of noise), winds that might disperse dust, and storms that might cause soil erosion or impact on the capacity of waste containment systems and tailings dams. Also, assess those aspects of the climate that might affect rehabilitation of the project site.

Provide a table that cross-references the relevant aspects of the climate to the sections of the EIS (e.g. Air, Water, Noise, and Ecology) that assess the potential impacts of the project with respect to the current climate's effects.

Climate change

Assess the potential change in climate at the project site over the expected life of the project. Use the following resources when assessing the potential climate change:

- Queensland Future Climate
- Queensland Future Climate Dashboard
- Terrestrial Ecosystem Research Network
- Climate Change in Australia
- Consistent Climate Scenarios
- Climate Impact and Adaptation

Take a conservative approach when using the resources listed above, and assume the worst case scenario for climate change projections at the project site. Assess the proposed project's vulnerabilities to projected climate change (e.g. changing patterns of temperature, rainfall, hydrology and extreme weather events), with particular reference to how climate change might require environmental management measures at the project to also change over time. For projects in the coastal zone, include sea level rise as a potential hazard. Assess and describe feasible environmental management measures and strategies for the project to cope with the hazards and risks posed by climate change.

Use the following resources when assessing the hazards and risks associated with climate change:

- Climate change risk management matrix—Workbook (Brundell et al. 2011) and eWorkbook
- CoastAdapt—Assess risks and impacts

Provide a table that cross-references to the relevant sections of the EIS that assess the potential impacts of climate change and the corresponding management measures.

References

Note: These references were correct at the time of publication. Where more recent versions are available, these must be used. For all Department of Environment and Science publications, the latest version of a publication can be found by using the publication number as a search term at the Queensland Government website <www.qld.gov.au>.

CSIRO and Bureau of Meteorology 2015, *Climate change in Australia*, viewed April 2020, <http://www.climatechangeinaustralia.gov.au/>.

Department of Environment and Science 2020, *Air—EIS information guideline*, ESR/2020/5294, Queensland Government, Brisbane, Queensland, viewed April 2020, <https://www.qld.gov.au/environment/pollution/management/eis-process/about-the-eis-process/developing-an-eis>.

Department of Environment and Science 2020, *Climate Change Risk Management Matrix*, viewed April 2020, <https://www.longpaddock.qld.gov.au/climate-adaptation/climate-risk-matrix/downloads/>.

National Climate Change Adaptation Research Facility, *CoastAdapt—Assess risks and impacts*, viewed April 2020, <https://coastadapt.com.au/assess-risks-and-impacts>.

Queensland Government 2020, *Climate Impact and Adaptation*, viewed April 2020, <https://longpaddock.qld.gov.au/qld-future-climate/adapting/impacts/>.

Queensland Government 2020, *Consistent Climate Scenarios*, viewed April 2020, <https://www.data.qld.gov.au/dataset/consistent-climate-scenarios>.

Queensland Government 2020, *Queensland Future Climate*, viewed April 2020, <https://longpaddock.qld.gov.au/qld-future-climate/>.

Queensland Government 2020, *Queensland Future Climate Dashboard*, viewed April 2020, <https://app.longpaddock.qld.gov.au/dashboard/#responseTab1>.

Queensland Government 2020, *SILO*, viewed April 2020, https://www.longpaddock.qld.gov.au/silo/>.

Queensland Government 2020, *Terrestrial Ecosystem Research Network*, viewed April 2020, <https://geonetwork.tern.org.au/geonetwork/srv/eng/catalog.search#/metadata/b587a6ee-cc1a-4849-bee4-58fec60f0e9f>.

Queensland Government 2020, *The climate change risk management matrix*, viewed April 2020, <https://www.longpaddock.qld.gov.au/climate-adaptation/climate-risk-matrix/>.