

Driving Sustainable Solutions in Australian Infrastructure

Department of
Environment, Climate Change and Water 2009

AGIC

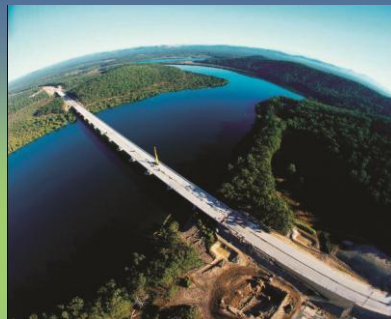
*Climate Change Vulnerability Assessment
Sub - Category*

Doug Harland 11.08.2010



Infrastructure Types Covered by The AGIC Scheme

- Roads and tunnels.
- Railways and bridges.
- Airports.
- Ports and marinas.
- Cycle and pedestrian pathways.
- Distribution grids.
- Telecommunication infrastructure.
- Water and wastewater supply and treatment infrastructure
- Civil engineering head works of industrial processes.



The AGIC Tool Categories

AGIC Infrastructure Sustainability Assessment Categories

1. Project Management & Governance.
2. Economic Performance.
3. Using Resources.
4. Emissions, Pollution & Waste.
5. Biodiversity.
6. People & Place.
7. Workforce.



A total of 27 sub-categories within the 7 categories above were developed through industry engagement and AGIC working groups.



Infrastructure projects and existing assets can be rated

1. Project management & governance	1.1 Purchase & Procurement	5. Biodiversity	5.1 Functioning Ecosystems
	1.2 Reporting & Responsibilities		5.2 Enhanced Biodiversity
2. Economic performance	1.3 Climate Change Vulnerability	6. People & Place	6.1 Health, Wellbeing, Safety
	1.4 Making Decisions		6.2 Natural & Cultural Heritage Values
3. Using resources	1.5 Knowledge Sharing & Capacity Building	7. Workforce	6.3 Participatory Processes
	2.1 Value for Money		6.4 Positive Legacy for Current & Future Generations
4. Emissions, pollution and waste	2.2 Due Diligence	7.1 Safety, Health & Wellbeing of Workforce	6.5 Enhanced Urban & Landscape Design & Aesthetics
	2.3 Economic Life		7.2 Capacity Building
3.1 Energy Use	3.2 Water	7.3 Increased Knowledge of Applied Sustainability	6.6 Knowledge Sharing, Shared Intellectual Property
	3.3 Material Selection & Use		7.4 Equity
4.1 Greenhouse Gas Management	4.2 Discharges to Air, Water & Land	4.3 Land Management	4.4 Waste Management



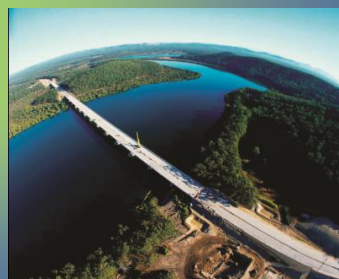
Climate Change Vulnerability Sub-Category

Authorship management:

- Sponsor – DECCW NSW
- Category Author – Dr Stephen Lees (Parsons Brinckerhoff Sydney)
- Peer Reviewer – Michael Nolan (AECOM)
- Project Manager – Antony Sprigg (GHD)

Authorship process:

- Literature review
- Interviews with practitioners (15)
- 2 Pilot Trials
- Final Training Manual will be completed
August 17th 2010



Why Assess Climate Change Vulnerability?

Loss of Precedents:

- Infrastructure was traditionally designed on the basis of historical weather records, assuming the future climate will be the same as the past.
- Climate change means that this assumption needs to be challenged

Objectives:

- Assess likely impacts
- Identify the steps required to reduce climate change vulnerability for infrastructure
- Rate the effectiveness of the measures taken to reduce project's climate change vulnerability



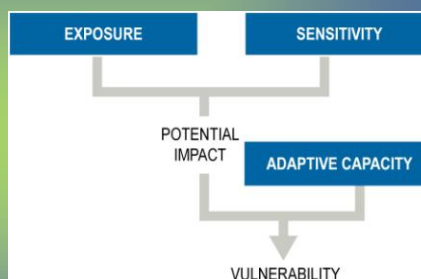
Definitions

exposure – the influences or stimuli that impact on a system

sensitivity – the degree to which a system is affected by changes in climate related variables

vulnerability – the extent to which a system or organisation can cope with the impacts of climate change

adaptation – actions in response to actual or projected climate change and impacts



Climate Change Vulnerability Criteria

1. Commitment & adaptation capacity
2. Screening for vulnerability
3. Climate change projections
4. Climate change risks assessed
5. Adaptation options assessed
6. Adaptation options designed / implemented



Conclusions and Next Steps

Outcome:

- CCV Sub-category provides a means of rating projects and assets on the effectiveness of the measures taken to reduce the project's climate change vulnerability
- It also provides guidance on the steps required to reduce climate change vulnerability in major infrastructure projects or an existing asset upgrade.

Next Steps for AGIC:

- Complete CCV Authorship project
- Release "Quick Check" sustainability assessment for projects.
- Launch Knowledge Hub at October conference.
- Develop remainder of rating scheme



AGIC Foundation Members

A collection of logos for AGIC Foundation Members. The logos are arranged in a grid-like fashion.
 - Top row: GHD (blue oval with white text), Winslow (yellow stylized 'W' with 'WINSLOW' below), CGF (blue circular logo with 'CONTRACTORS FEDERATION' around the perimeter), ACTEW CORPORATION (blue stylized 'A' with 'ACTEW CORPORATION' below), LGIS (blue square with white cross and 'LGIS' text, with 'LOCAL GOVERNMENT INFRASTRUCTURE SERVICES' below).
 - Middle row: Bovis Lend Lease (blue stylized 'B' with 'Bovis Lend Lease' below), a photograph of a large white pipe in a natural setting, and Thies (blue arrow-shaped logo with 'THIES' text).
 - Bottom row: Department of Environment & Climate Change NSW (green and blue logo with the state coat of arms), Brisbane City (blue logo with 'BRISBANE CITY' text), Queensland Government Environmental Protection Agency (blue and red logo with 'Queensland Government Environmental Protection Agency' text), and Parsons Brinckerhoff (blue 'PB' logo with 'PARSONS BRINCKERHOFF' text and '100 YEARS' below).
 - At the bottom of the slide, there is a decorative banner similar to the one in the first slide, with infrastructure images on the left and the AGIC logo on the right.

Organizational Members

A collection of logos for various organizational members, including:

- WorleyParsons (resources & energy)
- AECOM
- mainroads (WESTERN AUSTRALIA)
- Goldier Associates
- Brookfield
- PORT of BRISBANE (Here for the future)
- SMEC
- Nii
- CIEAM
- SKM
- aurecon
- Port of Melbourne
- Colonial First State (Global Asset Management)
- Tenix
- waterbydesign
- MWH (BUILDING A BETTER WORLD)
- onesteel
- TRANSHIELD SERVICES
- Transport Infrastructure Development Corporation
- QUT
- HATCH
- wpcgroup (Infrastructure & Innovation)
- BEST BAR REINFORCEMENTS
- CRC Construction Innovation (BUILDING OUR FUTURE)
- AAPA (AUSTRALIAN ASPHALT PAVEMENT ASSOCIATION)
- Engineers Australia
- pitt&sherry (sustainable thinking)
- BAULDERSTONE
- KMH ENVIRONMENTAL
- EPA VICTORIA
- Victoria (The Place To Be)

AGIC AUSTRALIAN RIVER INFRASTRUCTURE COUNCIL

AGIC website – www.agic.net.au



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