

Tourism Environmental Indicators

Environmental Indicators for Tourism

A suite of environmental indicators has been developed for the Queensland tourism industry, with consideration of our natural assets and key risks. Five goals for sustainable tourism in the natural environment directed the development of the Environmental Indicators, including:

1. Reduced average consumption of non-renewable resources by the tourism industry.
2. A tourism industry that is responding to environmental challenges.
3. A positive policy environment for sustainable tourism growth.
4. Increased visitor awareness of Queensland's unique environment.
5. Sustainable use of Protected Areas, a key attraction for visitors to Queensland.

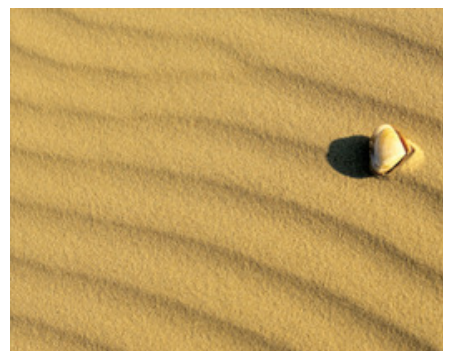
Environmental indicators can describe an environmental factor at a given moment, show trends, and track progress to a defined goal. They can be a means by which better decisions are made and emerging issues and impacts identified. If communicated successfully, they can act as a catalyst for change and a more sustainable approach to the use of the natural environment and resources.

Tourism Queensland commissioned EC3 Global to identify the environmental indicators which were developed through a global review of best practice case studies and consultation with a range of public and private sector stakeholders. A prefeasibility and then a full feasibility assessment on the identified indicators were conducted. This fact sheet presents a summary of the findings from the full feasibility assessment including methodologies for data collection.

Recommended indicators

The recommended Environmental Indicators have been divided into three categories – Core Indicators, Comprehensive Indicators and Future Indicators - based on their alignment with the stated goals, data availability, and their ability to inspire action by the tourism industry.

Based on the feasibility assessment, the following indicators – measured via various methods - are recommended:



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Core Indicators	Indicator Measures
1. Carbon Footprint of the Queensland Tourism Industry	Estimated Greenhouse Gas emissions per visitor via Tourism Satellite Accounts
2. Energy Use	Take up of renewable energy sources by tourism operators measured via survey
3. Water Use	Implementation of measures by the industry to reduce water use measured via survey
4. Waste Sent to Landfill	Implementation of measures by the industry to reduce waste sent to landfill measured via survey
5. Response to Climate Change by Tourism Operators	Percentage of surveyed operators participating in adaptation and mitigation via survey
6. Regional Sustainability Policies	Number of Regional Tourism Organisations to have adopted a Sustainability Policy measured via RTO survey

Comprehensive Indicators	Indicator Measures
7. Average energy use, water use and waste sent to landfill per visitor night	Average energy and water use and waste sent to landfill per visitor night by operators participating in a certification program
8. Adaptation Activities	N/A (now recommended as a Core Indicator – Indicator 5)
9. Visitor Education and Awareness of Conservation	Percentage of visitors with a greater appreciation of conservation &/or participated in some form of conservation activity while on holiday measured via visitor surveying
10. Carbon Offsetting	Percentage of visitors using carbon offsets measured via visitor surveying
11. Compliance of tourism operators with regulations for the use of managed / protected areas	Number of fines issued to tourism operators as a percentage of total permitted operators based on EPA records
12. A Positive Policy Environment for Tourism	Number of negotiated extended permits for tourism operators based on EPA records Number of Local Governments encouraging better environmental practices in tourism through having policy and planning guidelines via surveying

Future Indicators
EC3 Global proposes an additional category of indicators are also developed titled 'Future' Indicators. Future Indicators require significant change in reporting processes and information availability in order for them to become feasible. The recommended Future Indicators are:

13. Early Indicators of Climate Change
14. Great Barrier Reef Marine Park (region-specific indicator)
15. Wet Tropics World Heritage (region-specific indicator)

Core indicators

The Core Indicators track changes in key environmental components of the tourism industry, informing the achievements of the sustainability goals and measuring impacts of the tourism industry on the environment over time. The Core Indicators provide a snapshot of the impact of the tourism industry on the environment and the industry's response to environmental issues. Ideally, each Core Indicator will have reliable data available regularly, can be effectively communicated to industry and will lead to action.

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Based on the feasibility assessment a set of key recommendations for each of the Core Indicators has been identified and the most appropriate measures developed. These recommendations are included below.

Indicator 1: Carbon Footprint of the Queensland Tourism Industry	
<i>Purpose: Support efforts to minimise net production of the greenhouse gas, carbon dioxide, by the tourism industry</i>	
<p>Measures:</p> <p>Estimated Greenhouse Gas emissions per visitor via Tourism Satellite Accounts</p> <p><i>Recommended</i></p>	<p>Recommendations:</p> <ul style="list-style-type: none"> ▪ The methodology developed by the STCRC is recommended to best reflect this indicator. ▪ Results to be communicated as trend data with the provision of a national or state benchmark or best practice for comparison.
<p>Measures:</p> <p>Estimated annual tourism component of Greenhouse Gas emissions per visitor</p> <p><i>Not Currently Feasible</i></p>	<p>Recommendations:</p> <ul style="list-style-type: none"> ▪ Annual data estimating Australia's Greenhouse Gas Emissions is released through the National Greenhouse Accounts. At present there is no effective way of extracting the tourism contribution without significant attribution error (i.e. changes in data may not reflect efforts by the tourism industry).
Indicator 2: Energy Use	
<i>Purpose: Measure and minimise overall energy consumption and replace with use from renewable energy sources</i>	
<p>Measures:</p> <p>Take up of renewable energy sources by tourism operators</p> <p><i>Recommended</i></p>	<p>Recommendations:</p> <ul style="list-style-type: none"> ▪ A combined online survey assessing adaptation and mitigation measures across energy, water and waste is recommended. Refer "Adaptation and Mitigation by Tourism Operators" (Indicator 5) for further detail. ▪ Report measure as trend data; target to be set after first three reporting periods.
<p>Industry best-practice energy consumption per visitor night</p> <p><i>Feasible Alternative</i></p>	<ul style="list-style-type: none"> ▪ A number of environmental benchmarking and certification programs collect energy consumption figures from tourism operators (e.g. Green Globe, Climate Action Australia). It is possible to report 'best-practice' figures across a number of sectors and different sized operations. ▪ Measure to be reported against the national best practice per visitor night
<p>Energy use per visitor night</p> <p><i>Not Currently Feasible</i></p>	<ul style="list-style-type: none"> ▪ This measure is currently not feasible as available data does not segregate energy use by the tourism industry. This measure should be postponed until a method for extracting tourism use from the State total is developed.
Indicator 3: Water Use	
<i>Purpose: Measure and reduce the pressures on water supply and natural systems, providing the tourism sector with an opportunity to lead by example</i>	
<p>Measures:</p> <p>Implementation of measures by the industry to reduce water use</p> <p><i>Recommended</i></p>	<p>Recommendations</p> <ul style="list-style-type: none"> ▪ A combined online survey assessing adaptation and mitigation measures across energy, water and waste is recommended. Refer "Adaptation and Mitigation by Tourism Operators" (Indicator 5) for further detail. ▪ Report measure as trend data; target to be set after first three reporting periods.
<p>Industry best-practice water consumption per visitor night</p> <p><i>Feasible Alternative</i></p>	<ul style="list-style-type: none"> ▪ A number of environmental benchmarking and certification programs collect water use data from tourism operators. Best-practice data should be sourced from a program with a significant presence in Queensland to ensure it provides an accurate representation of achievable standards for the State. ▪ Measure to be reported against the national best practice per visitor night
<p>Water use per visitor night</p> <p><i>Not Currently Feasible</i></p>	<ul style="list-style-type: none"> ▪ Current reporting methods do not segregate water use by the tourism industry and so a true representation for water use cannot be calculated. Collecting data for this indicator should be postponed until a reliable methodology for extracting tourism use from the State total is available.

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Indicator 4: Waste Sent to Landfill

Purpose: Measure and decrease the portion of waste generated by tourism operators that is sent to landfill

Measures:	Recommendations:
Implementation of measures by the industry to reduce waste sent to landfill <i>Recommended</i>	<ul style="list-style-type: none"> A combined online survey assessing adaptation and mitigation measures across energy, water and waste is recommended. Refer "Adaptation and Mitigation by Tourism Operators" (Indicator 5) for further detail. Report measure as trend data; target to be set after first three reporting periods.
Industry best-practice waste sent to landfill per visitor night <i>Feasible Alternative</i>	<ul style="list-style-type: none"> A number of environmental benchmarking and certification programs gather waste collection data from tourism operators. Best-practice data should be sourced from a program with a significant presence in Queensland to ensure it provides an accurate representation of achievable standards for the State. Measure to be reported against the national best practice per visitor night
Waste sent to landfill per visitor night compared to waste recycled per visitor night <i>Not Currently Feasible</i>	<ul style="list-style-type: none"> Current reporting does not segregate waste disposal by the tourism industry. This measure should not be reported until a methodology for extracting tourism use from the State total is developed.

Indicator 5: Response to Climate Change by Tourism Operators

Purpose: To demonstrate operator commitment to reduce environmental and social impacts from operations by implementing adaptation and mitigation measures.

Measures:	Recommendations:
Percentage of surveyed operators participating in adaptation and mitigation <i>Recommended</i>	<ul style="list-style-type: none"> Through an online survey using a stratified sample of at least 500 tourism operators it would be possible to gain an understanding of the percent of operators engaged in a variety of adaptation and mitigation techniques. Measure to be reported as trend data with a target to be set after the benchmarking exercise in Year One.
Number of Queensland tourism operators participating in a certification program <i>Feasible Alternative</i>	<ul style="list-style-type: none"> While measurable, the percentage of total tourism businesses this figure will represent will be difficult to assess as there is currently no reliable data on the total number of tourism businesses in Queensland. Measure to be reported against the national participation rate.

Indicator 6: Regional Sustainability Policies

Purpose: Encourage regions to be proactive in their approach to sustainability & lead local industry by way of example

Measure:	Recommendations:
Number of Regional Tourism Organisations to have adopted a Sustainability Policy <i>Recommended</i>	<ul style="list-style-type: none"> Data could be gathered via survey method of the 14 RTOs. In the future, or if applied at a regional level, the measure may assess the presence of Local Tourism Organisation (LTO) Sustainability Policies. Measure to be reported as trend data with a target of 100% compliance by RTOs. Regional data on energy and water use and waste generated can also provide an indicator of response at a regional level.

Comprehensive indicators

Comprehensive Indicators provide a deeper understanding of the relationship between tourism and the environment. The Comprehensive Indicators should be measured in addition to the Core Indicators and have been selected as they will further inform the achievements of the State's sustainability goals. Measurement of the Comprehensive Indicators will complement the Core Indicators, and some of the methodologies for these indicators are linked to the Core Indicators – providing cost effective collection of data.

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Indicator 7: Average energy use, water use & waste sent to landfill per visitor night

Purpose: Encourage more sustainable use of non-renewable resources by the Queensland tourism industry

Measure:

Average energy and water use and waste sent to landfill per visitor night by operators participating in a certification program

Recommended

Recommendations:

- The results would capture the performance by tourism operators participating in a certification program. Data should be sourced from a program with a significant presence in Queensland to ensure it is an accurate representation of average use in Queensland.
- Measure should be reported as trend data with a target to be established after the first three reporting periods.

Indicator 8: Adaptation Activities

Purpose: Identify a proactive response to climate change and sustainability issues

Measures:

Number of operators involved in identified adaptation activities

Recommended

Recommendations:

- It is recommended that this measure be reclassified as part of the Core Indicator 'Response to Climate Change by Tourism Operators'. See Indicator 5 for further information.

Indicator 9: Visitor Education and Awareness of Conservation

Purpose: Encourage the involvement of visitors in conservation activities and recognise the efforts of operators to educate visitors on the importance of conservation

Measures:

Percentage of visitors with a greater appreciation of conservation &/or participated in some form of conservation activity while on holiday

Recommended

Recommendations:

- There is currently no available data for this measure, however it could be collected through a new or existing survey tool (e.g. the Roy Morgan Research, Holiday Tracking Survey).
- Report measure as trend data; target to be set after first three reporting periods.

Indicator 10: Carbon Offsetting

Purpose: Identify consumer concern for the environment and the need to further promote offsetting options

Measure:

Percentage of visitors using carbon offsets

Recommended

Recommendations:

- There is currently no available data for this measure, however it could be collected through a new or existing survey tool (e.g. the Roy Morgan Research, Holiday Tracking Survey).
- Report measure as trend data; target to be set after first three reporting periods.

Indicator 11: Compliance of Tourism Operators with Regulations for the Use of Managed / Protected Areas

Purpose: To ensure the Sustainable Use of protected areas by tourism operators

Measure:

Number of fines issued to tourism operators as a percentage of total permitted operators

Recommended

Recommendations:

- This data is currently collected by the EPA and GBRMPA and can be provided on request.
- Report measure as trend data; target to be set after first three reporting periods.

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Indicator 12: A Positive Policy Environment for Tourism

Purpose: Ensure a positive relationship exists between tourism and the policy environment to create incentives for a better tourism industry

Measure:	Recommendations:
<p>Number of negotiated extended permits for tourism operators</p> <p><i>Recommended</i></p>	<ul style="list-style-type: none"> Data on the permits issued can be provided by the EPA. Report measure as trend data; target to be set after first three reporting periods.
<p>Value of protected areas to the State</p> <p><i>Future Indicator Measure</i></p>	<ul style="list-style-type: none"> The CSIRO and the EPA are currently investigating a project to measure the value of protected areas in Queensland. This indicator should be progressed as a Future Indicator Measure.
<p>Number of Local Governments encouraging better environmental practices in tourism through having policy and planning guidelines</p> <p><i>Recommended</i></p>	<ul style="list-style-type: none"> This measure requires further work on the definitions of 'encouraging', 'better practice' and the types of policies and plans that impact on the tourism industry. Case studies should be developed to exemplify Local Governments that are 'encouraging better environmental practices in tourism through policy and planning guidelines'. Report measure as trend data; target to be set after first three reporting periods.

Future indicators

Indicator 13: Early Indicators of Climate Change

Purpose: Develop an understanding of the level of risk for Queensland's tourism industry

Measures:	Recommendations:
<p>An aggregated measure of climate change risk</p> <p><i>Future Indicator</i></p>	<ul style="list-style-type: none"> Due to the size and variability of conditions across Queensland, this indicator should be a qualitative measure in which potential climate change risks are identified at a regional level and at key tourism destinations. As data is not currently available, it is recommended to be a Future Indicator.

Indicator 14: Great Barrier Reef Marine Park

Purpose: Promote the Sustainable Use of the Great Barrier Reef Marine Park

Measure:	Recommendations:
<p>Great Barrier Reef Marine Park Authority (GBRMPA) region specific indicators</p> <p><i>Future Indicator</i></p>	<ul style="list-style-type: none"> Further consultation with GBRMPA should be conducted to identify region specific indicators to be monitored under this Environmental Indicator set. This indicator should be progressed as a Future Indicator.

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Indicator 15: Wet Tropics World Heritage Area

Purpose: Promote the Sustainable Use of the Wet Tropics World Heritage Area

Measure:

Wet Tropics Management Authority (WTMA) region specific indicators

Future Indicator

Recommendations:

- Further consultation with WTMA should be conducted to identify region specific indicators to be monitored under this Environmental Indicator set.
- This indicator should be progressed as a Future Indicator.

Indicator reporting

It is recommended that a Triple-Bottom-Line (TBL) approach is adopted to report on the Environmental Indicators, which combines environmental, social and economic indicators. TBL reporting will enable the Queensland tourism industry to better understand the overall health of the industry and make informed destination management and planning decisions.

It is recommended that the indicators be presented in an annual 'Triple Bottom Line (TBL) Indicator Report Card' format. The Report Card should:

- Provide an introduction to the indicators;
- Identify the goals to which each indicator is linked;
- Summarise the key findings from the measurement of the indicators;
- Present results using basic but effective visualisation tools; and
- Provide a contact point.

The success of a Tourism Indicators Report Card will depend entirely on the effectiveness of the communications plan and approach and by ensuring the indicators reflect identified industry challenges. It is therefore essential that a Communications Plan be developed along with a regular review of indicators, the reporting and the index to encourage action by the industry.

For further information, contact our team at industryinnovation@tq.com.au.