1. Introduction

A questionnaire (shown in Appendix 1) was circulated to mostly APEC economies to determine the level of activity Life Cycle Impact Assessment (LCIA). In particular the aim was to identify the indicators currently being used in impact models, and to contrast this to the major environmental and social issues in these economies.

2. Response to survey

There were 19 respondents to the LCIA questionnaire. They were from the following economies: Mexico, Singapore, Philippines, P.R. China, Chile, Egypt, Korea, USA, Indonesia, Chinese Taipei, Canada, India, Australia, PNG, Brazil, Malaysia, New Zealand, Thailand and Japan.

3. Results

Of the 19 economies that responded, 14 have LCIA projects underway. Eight economies have projects supported by national governments. Eight economies have substantial non-government projects and 10 economies have sector-specific projects.

The indicators most commonly included in these models are shown in Figure 3. Global warming, human toxicology, eutrophication and ozone depletion are the most common indicators included in impact models developed. Water use, ecotoxicology impacts, photochemical smog and acidification are also common inclusions in the impact models developed.

The land-use, biodiversity, life support, soil quality and water quality indicators are the least included indicators in impact models being developed. However there is substantial interest in these indicators as many survey respondents indicated that they were examining or considering these impact categories.

Figure 1 shows the number of respondents identifying different environmental issues as big issues for government or significant issues for some groups. The big issues most commonly identified were smog, surface water quality, efficient use of resources, closely followed by water scarcity, stratospheric ozone and toxic substances. Behind these came biodiversity and global warming.

There appears to be a reasonable match between many of the big issues and the indicators being most commonly modelled. Surprisingly, global warming is ranked lower in the issues category, despite being nearly always included in the impact model, and may often be the only indicator.

Figure 2 shows the same ranking as in Figure 1 but for major social issues. The biggest issues appear to be poverty, literacy/education, labour conditions and trade imbalances which were identified by over half the participants as either big issues or
significant issues for some groups. Water-borne disease was also seen as an important social issue in many economies.

Figure 1: Percentage of respondents identifying different environmental issues as big issues for government, or significant issues for some groups.

Figure 2: Percentage of respondents identifying different social issues as big issues for government, or significant issues for some groups.
Figure 3 Percentage of impact models under development that are including, examining and considering different impact categories/indicators.
Appendix 1 Questionnaire used in the study

Environmental Impact Assessment Questionnaire for APEC-AIST Workshop on LCA in APEC Countries

Please enter response in the gray area and check the relevant boxes by clicking with your mouse. Once completed save the document and email back to tim.grant@rmit.edu.au or fax to (61 3 9925 3490)

About Person filling in Questionnaire

<table>
<thead>
<tr>
<th>Name</th>
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<tbody>
<tr>
<td>Organisation</td>
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<tr>
<td>Country/Economy</td>
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<td>Email Contact</td>
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</table>

1 About Life Cycle Impact Assessment in your country

1a. Please describe the general status of Life Cycle Impact Assessment (LCIA) in your country/economy

Example - some people have been doing LCA but just use European Impact models, or We haven’t used LCA much and don’t know much about LCI.

1b. Are there any LCIA projects underway or completed in your country

Yes □ No □

If you have no LCIA activity whatsoever – go to question 2

1c. What is the scale of these projects (select multiple if appropriate)

<table>
<thead>
<tr>
<th>Completed?</th>
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<tr>
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<tr>
<td>National Government supported projects</td>
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<td>Substantial project based within a research group without national government support</td>
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<td>Industry Sector based</td>
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<td>Other</td>
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<td>1d: Within any projects listed above please indicate impact categories being included/examined/considered</td>
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<tr>
<td>Abiotic resources</td>
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<td>Fossil fuels (as separate category)</td>
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<td>Mineral resources (as separate category)</td>
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<tr>
<td>Global warming</td>
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<tr>
<td>Depletion of stratospheric ozone</td>
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<tr>
<td>Photo-oxidant formation (summer smog)</td>
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<tr>
<td>Winter Smog</td>
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<tr>
<td>Human toxicological impacts</td>
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<td>Ecotoxicological impacts (General)</td>
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<td>Ecotox. impacts (terrestrial)</td>
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<td>Ecotox. impacts (fresh water)</td>
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<td>Ecotox. impacts (marine)</td>
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<td>Water use</td>
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<td>Water quality degradation</td>
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<td>Acidification</td>
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<td>Eutrophication</td>
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<td>Biodiversity</td>
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<td>Life Support</td>
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<td>Land Use</td>
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<td>Cumulative energy demand (embodied energy)</td>
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<td>Solid Waste</td>
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<td>Soil quality (erosion, salinization, compaction)</td>
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<td>Pesticide management</td>
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<td>Other</td>
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2 About your country’s/ regions environment

2. Using your experience and knowledge of your countries environmental issues and priorities how important are the following issues to your country (we recognise your judgment will be subjective)
<table>
<thead>
<tr>
<th>Issue</th>
<th>Big Priority Issue for Govt.</th>
<th>Issue for Some Groups</th>
<th>Low Priority Issue</th>
<th>Non-Issue</th>
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<tbody>
<tr>
<td>Global Warming</td>
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<td>Stratospheric ozone depletion (UV radiation)</td>
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<td>Smog</td>
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<td>Surface water quality</td>
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<td>Acid Rain</td>
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<td>Management of Toxic Sunstances</td>
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<td>Efficient use of resources</td>
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<td>Loss of Biodiversity</td>
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<td>Eco-system productivity / Loss of Forested Areas</td>
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<td>Soil quality (Desertification/ Soil Loss/Erosion/ Salinization / Compaction)</td>
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<td>Water scarcity</td>
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<td>Air pollution</td>
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Please Return Questionnaire to Tim Grant (tim.grant@rmit.edu.au) or fax on 61 3 9639 3412) or send by Mail to Centre for Design, RMIT University, GPO Box 2476V, Melbourne 3001, Australia.