ARUP

Subject	AUDE Green Scorecard Methodology - Final Draft for comment by AUDE Steering Group		
Date	7 September 2015	Job No/Ref	242173-00

This methodology document has been produced to describe the proposed 'Green Scorecard' system based on the consultation with the sector and subsequent further briefing meetings. This methodology should be read in conjunction with the scorecard matrices for each category. These documents combined provide the methodology to inform the next stage of implementation.

Scorecard Overview

Purpose

The purpose of the 'Green Scorecard' is to measure the performance of universities with regard to aspects of sustainability within the sphere of influence of most Estates Departments and provide a framework for a continued sustainability effort and improvement in these areas. This can then be used to drive innovation and encourage knowledge transfer within the sector. It is envisaged that a second phase of work will be completed (possibly by EAUC) to consider the many aspects of sustainability that are relevant to universities but that are outside the control of Estates teams.

Categories

The scorecard contains eight categories outlining sustainability issues relevant to the Estates Team within a HEI. These are:

- Energy & Emissions
- Transport
- Water
- Waste
- Adaptation
- Procurement
- Biodiversity & Landscape
- Overall

Each category consists of a number of indicators against which a HEI appraises their current position and also identifies a target position they are aiming for, according to the importance of each issue.

Indicators

The indicators within the categories consist of two types:

- Numerical indicators based on current and previous EMR submissions
- Subjective indicators where the HEI appraises their position against a series of statements (in a similar way to AUDESAT)

Each indicator achieves a score from zero to four. These scores are combined to indicate the overall score for each category. No final overall score is generated.

How the scorecard will be used

Selecting relevant issues

The scorecard recognises that the sector contains a wide variety of HEIs which may have different issues and priorities.

Within each of the eight categories there are *core* issues and *optional* issues. All HEIs must complete the information within the core issues. HEIs can then select the optional issues that are relevant to them. How this variation in the number of issues a university is being rated against affects the way the score is indicated in the final diagram will be discussed in the 'Outputs' section. The graph below shows the balance of core and optional indicators across the categories.
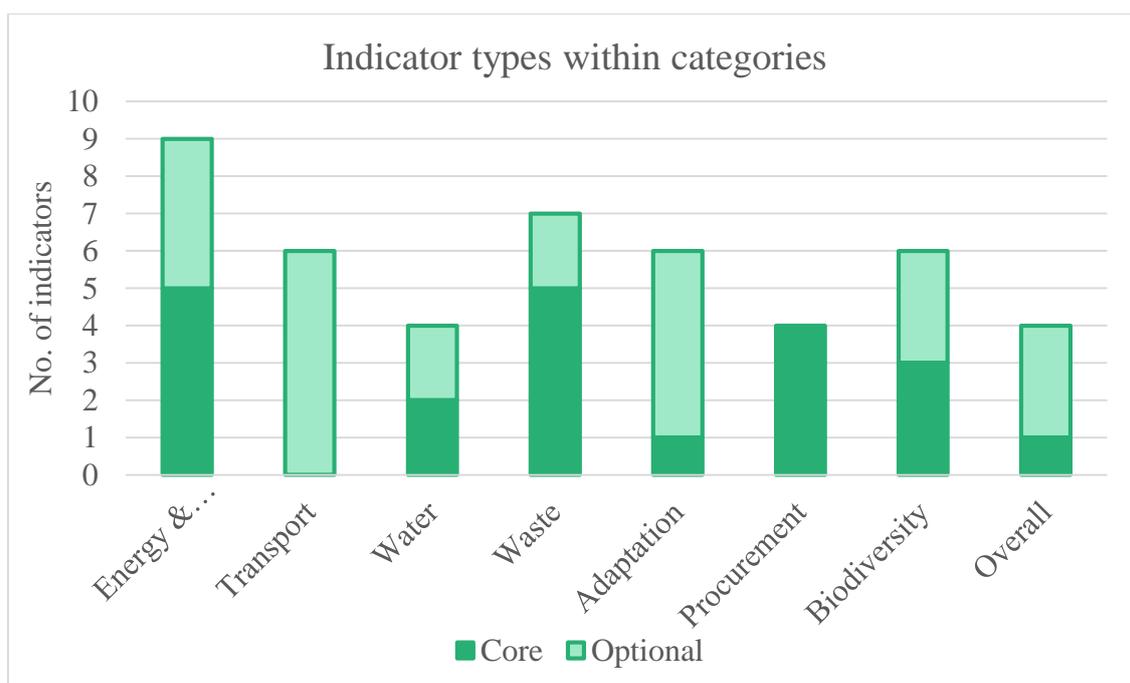
Setting targets

To encourage a continued sustainability effort, HEIs must select a target score for each indicator. It is envisaged that targets will indicate the position the HEI aims to be in at three years' time. This timescale is intended to be far enough into the future to show the difference between indicators where continued significant progress is expected and those where only a marginal, short-term improvement is targeted. However, it is close enough to the present to align with resource planning and issue prioritisation.

It is intended that the target scores can be reviewed and changed each year to reflect changing priorities and in response to indicators where significant progress has been made.

The third and subsequent submissions of the data could include an appraisal of how successful a HEI has been in meeting the targets they set three years' previously.

## Entering results to generate scores

Numerical indicators

Many issues will have a score generated from a university's EMR data. We believe it will be possible to pre-populate the data-gathering mechanism with this information (this will need to be verified in the phase of this project that looks at detailed implementation issues). The worst-case scenario for these indicators is that institutions will need to manually type the information into a spreadsheet but this will still be a significantly quicker process than is currently in effect.

For numerical indicators, the score a university achieves is based on the performance of the sector as a whole. This avoids the need to set artificial boundaries that may be contentious. It also allows the scoring mechanism to, in effect, automatically update the boundaries between the scores each year. The scores are achieved as follows (assuming an indicator where a reduction is desired such as energy consumption):

- Zero points: indicator has increased
- One point: indicator has decreased but level of change is within the lowest quartile
- Two points: indicator decrease is within second quartile of sector
- Three points: indicator decrease is within third quartile of sector
- Four points: indicator decrease is within top quartile of sector

These boundaries are shown graphically below where the spread of performance across the sector is divided into sectors. For indicators where an increase is desirable (such as proportion of waste diverted from landfill), the rationale will be reversed accordingly.
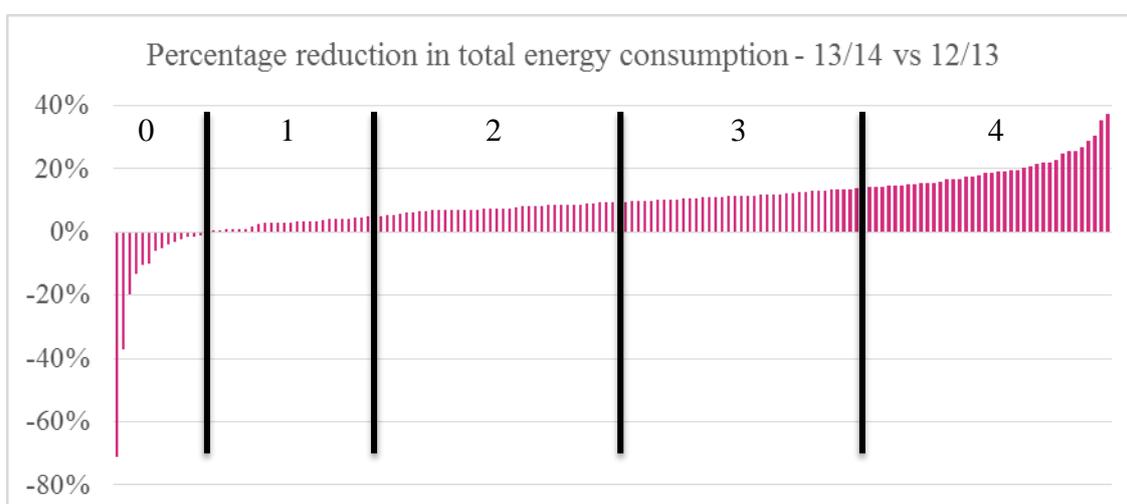
Percentage reduction in total energy consumption - 13/14 vs 12/13

Many of the indicators that rely on EMR data are expressed as an improvement from previous results. This is as a result of feedback indicating that it would be preferred if the scorecard rewarded improvement as opposed to absolute values which would unfairly penalise universities who may be poor performers in some issues for reasons outside of their control (such as location).

In this case, the improvement is expressed as a change from the average of the three years' results. The intention is to 'smooth out' the effect of significant changes. In this way, the improvement of a significant investment is seen over a number of years with a gradually diminishing effect as opposed to a university receiving a very high score for one year which then is not reflected at all in subsequent years.

For example, a university reduces emissions by 18% within one year through investment in low carbon energy but sees a small annual 1% rise outside of this year due to a lack of remaining budget.

	Year 1	Year 2	Year 3	Year 4
Reduction from three year rolling average	19% (4 points)	12% (3 points)	5% (2 points)	-2% (0 points)
Reduction from previous year	18% (4 points)	-1% (0 points)	-1% (0 points)	-1% (0 points)

Subjective indicators

There are sustainability issues that are very important but cannot be measured numerically. In these cases, universities will rate their current position and target subjectively against a framework of statements. This is a style most universities are familiar with, being similar to the AUDESAT structure that was often mentioned in the workshops. It is also similar to the format used for the EAUC LIFE self-assessment tool.

Scores of zero to four apply in the same way as the numerical indicators, giving these less tangible aspects equal weighting. Additional comments may be entered next to each issue to provide context and explanation.

Weighting

There is no artificial weighting envisaged within the scorecard. Instead, each indicator is treated equally and the importance of each category (and therefore the weighting) is set by each institution choosing how many of the optional indicators are of relevance to it. As discussed in the next section, the visualisation of the output can also influence the perception of weighting between the categories.

Outputs

The results of the scorecard will include a graphical summary comparing the HEI's current score against the targeted score for each category.

To show options for how this could be formatted, there is firstly a need to define two types of scoring benchmarks:

- The *maximum score* is the highest score that could be achieved including *all* of the optional indicators
- The *potential score* is the highest score that can be achieved considering only the optional indicators selected by the university

How these benchmark scores are normalised reflects how the current and target scores are visualised:

- No normalisation – potential and maximum scores are indicated visually according to the number of issues within each category.

- Maximum score for each category is normalised. In this case the maximum score for each category is shown on the graph as being at the same distance from the centre. The potential score indicated visually within maximum score.

- Potential score for each category is normalised (shown as being the same distance from the centre).

Examples of each of these visualisations are shown on the following page (reflecting the same scoring).

- No normalisation
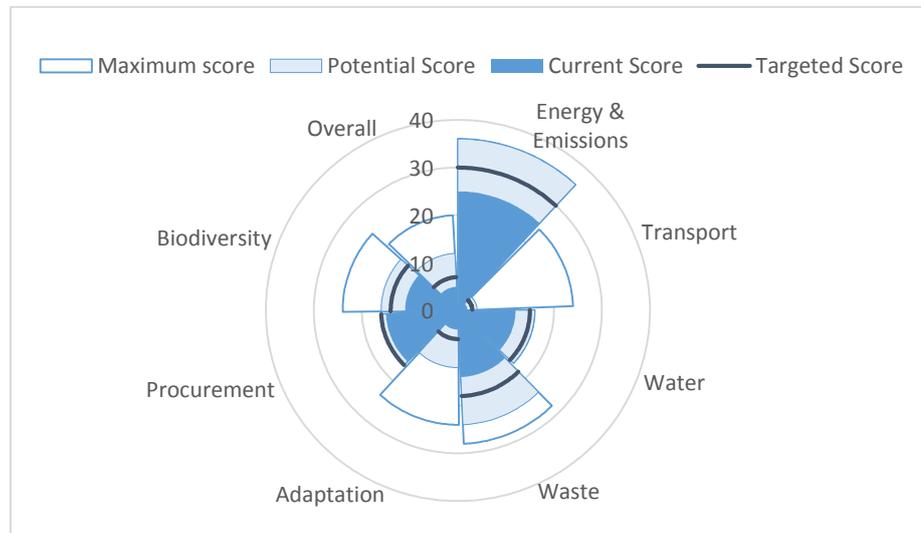
- Maximum score normalised
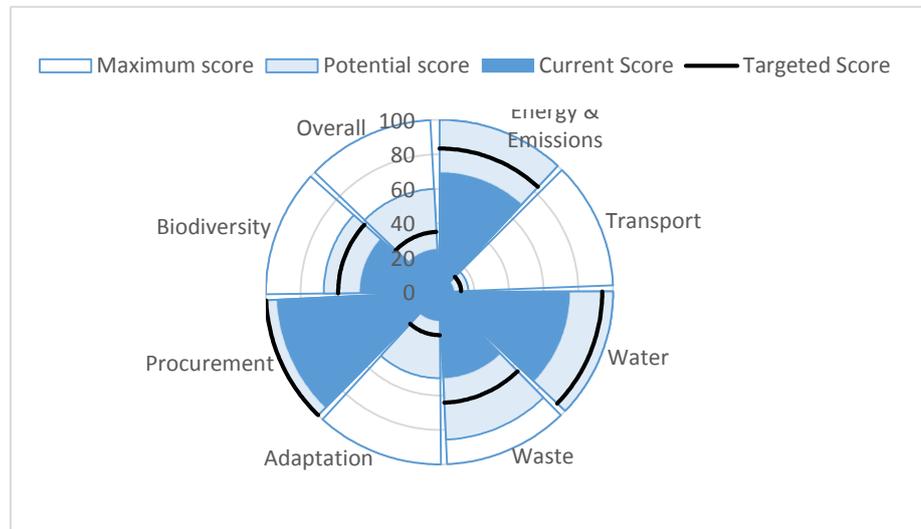
- Potential score normalised
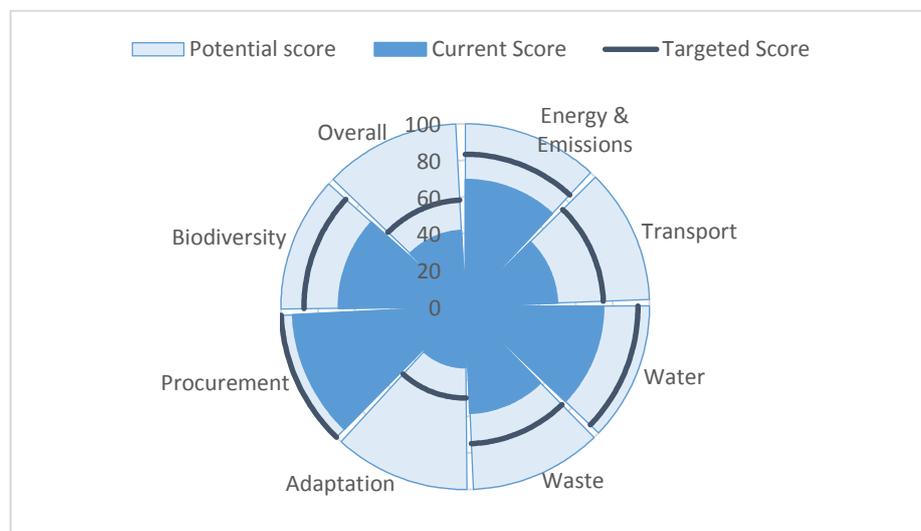
Each of these styles has advantages and disadvantages:

Output style	Advantages	Disadvantages
No normalisation	Most accurate representation of the scores achieved in each category. Allows complete comparison between HEIs	Exact position of categories with smaller scores are difficult to discern.
Maximum score normalised.	Visually simpler whilst keeping the representation of what proportion of issues each university has chosen to appraise itself against. Direct comparison between institutions still possible.	The achievement of a single 'point' in categories with fewer issues has a disproportionately large effect.
Potential score normalised	Easier comparison between HEIs with subtly different number of optional indicators adopted.	No indication of number of indicators selected within each category as maximum score is not represented – therefore university could be seen to be performing well when in fact has chosen to appraise itself against very few indicators.

We consider the normalisation of the maximum score to be the best option. It keeps the ability to directly compare between institutions but doesn't provide misleading information where few issues are being rated within a category whilst proving visually simpler.

Within each of these options, there are further possibilities to represent the performance visually, for example with the use of colours – here shown with the maximum score normalised.
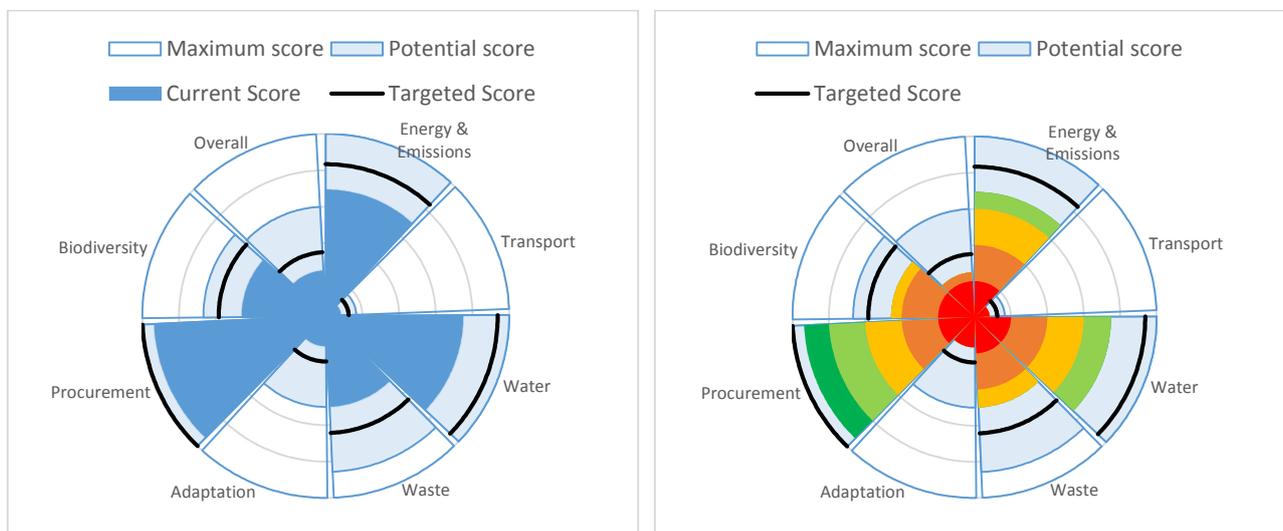
These graphs could be incorporated into a graphic showing more information. This could include the actual percentage to allow easier comparison between universities, as shown in the example on the following page.

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These high-level graphics are intended to be able to show overall performance and will be useful for comparisons between institutions. However, it is likely that each university will have the need to interrogate their own scores (and potentially others') in more depth.

To this end, the scorecard will also provide a detailed summary for each category. This identifies where the HEIs are performing against their targets for each issue. This can help the HEIs to establish in which areas their sustainability efforts could be more focused. An example of how this might look for the Energy & Emissions category is shown below.

Further detail could be provided for each of the issues that are based on EMR data, either representing within a graph where a university sits within the sector or providing the figures that represent each quartile.