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**COLLECTOR WINDFARM
LANDSCAPE CHARACTER AND
VISUAL IMPACT ASSESSMENT
PEER REVIEW
S13-0011 10.05.2013**

Cover Image: Site of proposal seen from nearby Collector village. Photo taken from location V4 (See location plan Page 19).

COLLECTOR WIND FARM
LANDSCAPE CHARACTER AND VISUAL IMPACT ASSESSMENT
PEER REVIEW



for

NSW Department of Planning & Infrastructure
23-33 Bridge Street
Sydney
NSW
2000
Australia

Prepared by

CLOUSTON Associates

Landscape Architects • Urban Designers • Landscape Planners

Level 2, 17 Bridge Street • Sydney NSW 2000

PO Box R1388 • Royal Exchange NSW 1225 • Australia

Telephone +61 2 8272 4999 • Facsimile +61 2 8272 4998

Contact: Leonard Lynch

Email • sydney@clouston.com.au

Web • www.clouston.com.au

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INTRODUCTION



Figure 1 District map showing site context. (Image sourced from EA Part 1)

INTRODUCTION

BACKGROUND TO THE REPORT

The NSW Department of Planning and Infrastructure has commissioned CLOUSTON Associates to prepare this independent Peer Review of the Landscape and Visual Impact Assessment (LVIA) undertaken for a wind farm proposed at Collector in the Upper Lachlan Shire of NSW. The proponent for the wind farm is RATCH Australia Corporation.

The Collector Wind Farm (The Preferred Project) proposal seeks approval for the erection of 63 wind turbines measuring 150 metres from ground to tip of blade and associated electrical works. This review assesses the Environmental Assessment (APP, June 2012) submitted with the proposal, specifically the LVIA which was undertaken by Green Bean Design (GBD) and photomontages by Truescape Visual Communication. The original project proposal sought approval for 68 turbine wind farm. Five turbines have subsequently been proposed for removal (see Figure 2)

In addition to the original LVIA, the following documents are assessed as part of this Peer Review:

- The Preferred Project Submissions Report (APP, February 2013). It responds to submissions received from the public and also from Richard Lamb Associates (RLA) and Whelans InSite on behalf of the 'Friends of Collector'.
- The RLA reply to the Response to Submissions (dated 25th March 2013).

SCOPE AND LIMITS OF THE PEER REVIEW

This peer review is an independent assessment of the methodology and approach taken by Green Bean Design and Truescape Visual Communication in relation to the LVIA and photomontages.

Scope of the Review

The scope of this Peer Review is to provide advice to the NSW Department of Planning and Infrastructure (NSW DP&I). This Peer Review assesses:

- the Landscape Character and Visual impact assessment of the LVIA
- the Response to Submissions (APP, February 2013)
- the applicability of the approach taken and assumptions made in the LVIA
- the acceptability of information provided in the LVIA in relation to the landscape impacts on both the local and regional scales
- the suitability of mitigation measures provided in the LVIA.

The Review includes assessments as to whether the proponent's LVIA has:

- adopted current best practice
- comprehensively applied methodologies that reflect that best practice
- drawn conclusions that can be reasonably supported by the methodology adopted.

Where applicable, shortcomings in any of the above processes and outcomes are identified and recommendations made as to how they might be addressed or re-addressed to assist DP&I in their decisions on the proposal.

INTRODUCTION

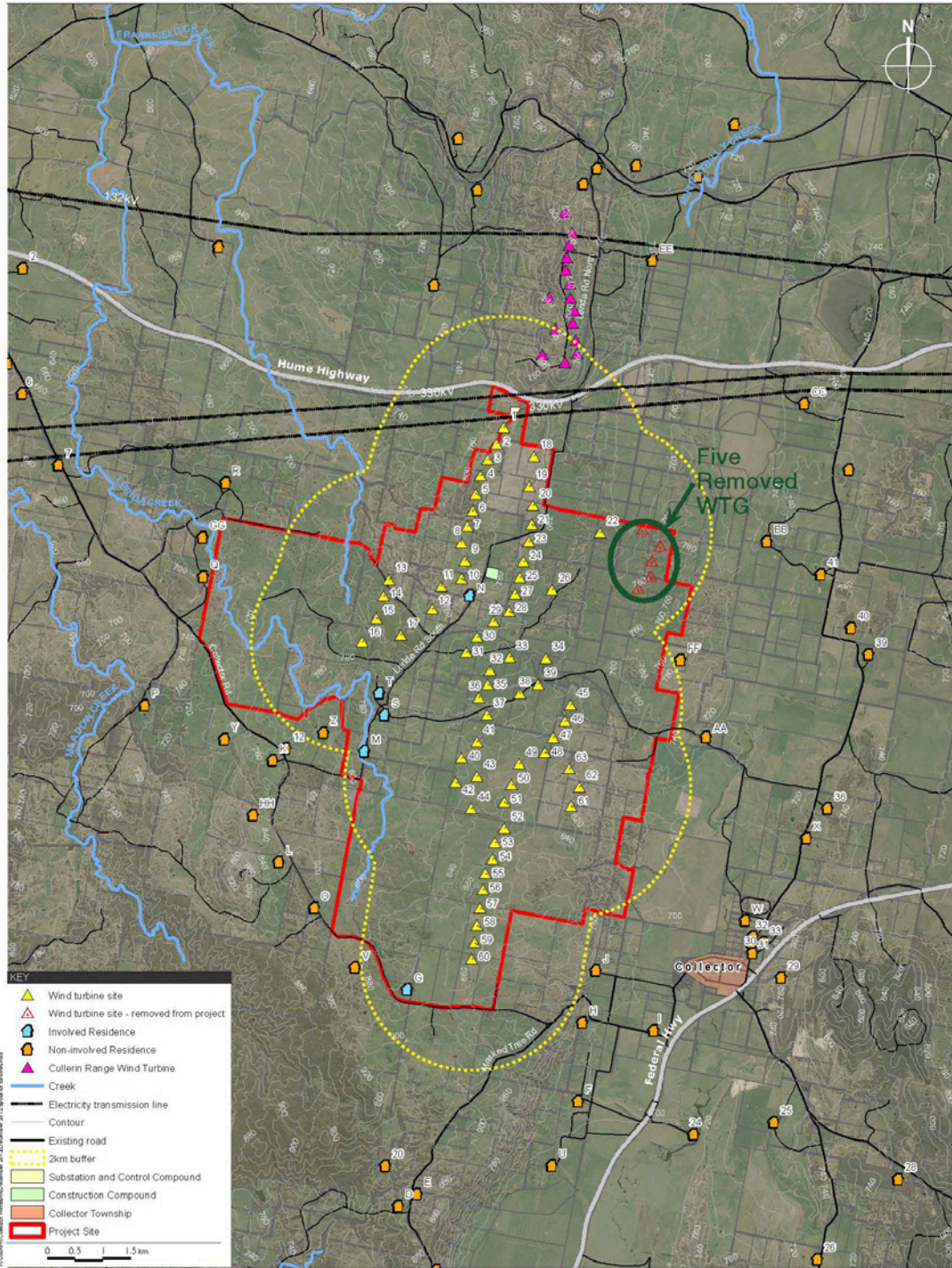


Figure 1. Preferred Project Layout

Figure 2 Preferred project proposal for the Collector Wind Farm (Image sourced from Preferred Project & Submissions Report, 2013, APP)

INTRODUCTION

To further assist the NSW DP&I in the assessment process, this Peer Review also provides:

- A statement on the level of significance of impacts as assessed in the LVIA's methodology
- Recommendations on how the conclusions should be addressed, including mitigation measures.

Limits of the Review

This review evaluates the methodology adopted and conclusions drawn by the proponent. While the application of recommendations provided in this Review might change the conclusions on the level of visual impact of the proposal, this Review does not and cannot indicate the extent of such change. This advice must necessarily result from a full application of these recommendations through the full LVIA process.

Exclusions from the Review

The report authors have not sought to assess the veracity of the proponent's photomontages in terms of technical accuracy of representation. A review of the methodology and response to submissions relating to the photomontages has however been undertaken.

REVIEW PROCESS

The following tasks have been undertaken in preparing this review:

- An initial meeting between CLOUSTON Associates and DP&I to discuss the project and the LVIA.
- Review of background information including project details, the LVIA, the Response to Submissions (dated 1st of February, 2013) and RLA Reply to Response to Submissions (dated 25th of March, 2013).
- A site visit (20th of March, 2013) to inspect the site of the proposal and gain an general understanding of the project location and the surrounding context.
- Reviewing and comparing the LVIA with best practice Landscape Character and VIA methodologies and processes.
- Preparation of a Draft Peer Review for DP&I information and this Final Peer Review.

This Review has been set out in three parts:

- Part A - Assessment of the LVIA
- Part B - Review of Submissions and Responses
- Part C - Conclusions and Recommendations

BEST PRACTICE AND REFERENCED DOCUMENTS

In developing this Review the authors have drawn on and referenced a range of best practice guidelines, directions and policy documents from Australia and overseas that include those referenced in the GBD References and Bibliography.

The authors also note that in relation to some elements of the LVIA the proponent has been provided specific direction through the DGRs which in some cases modify or specifically identify criteria (such as viewshed) that are to be adopted by the proponent.

Of relevance to this proposal are also several recent NSW Land and Environment Court findings on LVIA cases. Whilst not all of these will specifically relate to wind farm proposals they provide important guidance on defining rationale for both the quantitative and qualitative aspects of visual impact assessment and in particular in the areas of viewer category and sensitivity, for which the Court has sought to establish and refine Planning Principles since 2005.

In this light the authors have given regard to various findings of the Commissioners that have bearing on viewer categories and sensitivity, and in particular the case of *Rose Bay Marina Pty Limited v Woollahra Municipal Council* (2013 and previous findings on earlier applications of this proposal). The findings address relative priorities given to public and private domain views and the principles that should be adopted in establishing viewer sensitivity.

It should be noted here that the processes of LVIA's are complex and by their nature imply levels of subjectivity based in particular on the specific contexts and perception of individuals viewing a landscape or change to that landscape.

While this aspect of LVIA's can get drawn into complex issues and academic discussions on the influence of personal values and perspectives on visual perception, it is important that as far as possible an LVIA adopts a practical approach that identifies the assumptions made, limitations imposed or implied and the rationale behind evaluation criteria.

In this regard the input of surveyed perspectives of affected communities is critical in both modifying sensitivity indices that may arise from professional best practice guidance and in assessing levels of likely visual impact.

It is notable in this context that the third edition of the longstanding and key reference document *Guidelines for Landscape and Visual Impact Assessment (LI and EMA)* released in 2012 provides even less specific guidance on assessment procedures and ratings criteria than did the second or first editions, preferring to place the emphasis on consultation with affected viewers.

Finally, the authors note that both GBD (authors of the LVIA) and Richard Lamb Associates (author of submissions for Friends of Collector) are acknowledged experts in the field of Landscape and Visual Impact Assessment.

The intention of this Review is thus to add a third party expert overview, in assisting the Department to reach a decision on the proposal, acknowledging that in some areas of this evaluation the complexity of issues is such that there will be no 'right' or 'wrong' answers, rather that the conclusions drawn on such issues are soundly sourced and robustly supported by evidence and research.

PART A: ASSESSMENT OF THE LVIA

METHODOLOGY ADOPTED AND GENERAL OVERVIEW

Broadly speaking the methodology and processes employed by GBD to prepare the Collector Wind Farm LVIA reflect industry best practice.

In preparing the LVIA it appears that Green Bean Design (GBD) have used current local, national and international guidelines and standards to inform the study and approach. In general overview the LVIA:

- is clearly laid out, in a mostly logical order and is generally user friendly
- uses plain English wherever practical and is free of unnecessary jargon (a glossary of key terms and definitions would assist the lay reader)
- references best practice documents appropriately throughout the report where this assists explaining the rationale and criteria adopted
- mostly seeks to provide a rationale for criteria adopted and assumptions made
- is well and clearly illustrated through photographs.

Accordingly, the following assessments relate to specific aspects of the applications of the referenced methodologies where in the opinion of the Review authors there is either a lack of adequate rationale behind an assessment or the relative importance of that rationale is unclear, overstated or understated.

ASSESSMENT PROCESS

The landscape character and visual impact assessment for the Collector Wind Farm LVIA are discussed in this section. This evaluation addresses the LVIA in three parts:

- Landscape Character and Sensitivity
- Visual Impact Assessment
- Mitigation Measures Proposed

Where a specific part of the LVIA is considered by the authors to be appropriately addressed and the impacts reasonably evaluated and supported, these topics are not further discussed in this assessment.

Landscape Character and Sensitivity

While GBD has addressed landscape character and sensitivity in the LVIA the authors believe there are several aspects of this assessment that understate its role in establishing the baseline for the subsequent visual impact assessments.

Land Use and Baseline Context

There is no reference to the land use zone or permissibility of the scheme within the LVIA. The State Environmental Planning Policy (Infrastructure) 2007 applies to the Collector Wind Farm proposal. The SEPP states that: "Development for the purpose of electricity generating works may be carried out by any person with consent on any land in a prescribed rural, industrial or special use zone." Mapping in the Upper Lachlan Shire LEP 2010 indicates that the Collector wind farm site is located on land zoned RU2 - Rural Landscape, which is a prescribed rural zone under this clause.

PART A: ASSESSMENT OF THE LVIA

While prima facie this is an obvious conclusion, the permissibility of the landuse and the existing presence of a windfarm in the vicinity (Cullerin Windfarm) need to be addressed as a baseline position in assessing the contextual characteristics and values of the landscape.

In other words, while the modified rural landscape demonstrably has value in its own right, it is not a landscape in isolation from various structural elements already existing in the landscape such as communication towers and powerlines.

The presence of the latter and indeed the existing windfarm do not inherently justify this proposal, but their presence and permissibility in the landscape assists in establishing a baseline for both landscape sensitivity and subsequent visual impact assessment - ie the proposal is not addressing an environment where no elements of arguably negative visual impact are permissible or present.

Heritage

The LVIA nominates seven historic buildings located in Collector Village as listed heritage items in the Upper Lachlan Shire LEP2010. However, there is no indication or discussion of their significance within the landscape - either as stand alone items or as a cluster of items.

The heritage items are not identified as residential receptors (Table 15 'Residential View Location Matrix'. page 42-67) or as receptors under the Public View Location Matrices (Table 16, page 64 - 67).

Likewise, the presence of the Bicentennial Trail is mentioned mostly in passing in the LVIA and then addressed in more detail in response to specific submissions on the issue. However, even in this latter case the contribution to landscape character and sensitivity has been based largely on the percentage of the total trail that this section comprises. This does not appear to be a valid rationale in relation to the specific sensitivity of this part of the trail.

It is considered that more detail is warranted in addressing the significance of these heritage items and the degree to which they affect the landscape sensitivity of the locality .

Landscape Character Areas

Five Landscape Character Areas (LCAs) were identified within the LVIA:

- LCA1 - Undulating grassland
- LCA2 - Wetland and drainage areas
- LCA3 - Slope and ridgeline areas
- LCA4 - Timbered areas (cultural and remnant native)
- LCA5 - Settlements and Homesteads

No mapping of the LCAs is provided as the assessment states that "the LCAs do not occur within boundaries and are not definable as discrete areas". This lack of information compromises the task of assessing the sensitivity of each landscape type and therefore in understanding the proposal's impact on the local or regional landscape.

PART A: ASSESSMENT OF THE LVIA

Mapping of these LCAs is by no means complex nor misleading; indeed the authors consider such mapping is essential even if zones may overlap or have indistinct boundaries. It is a critical exercise in making an assessment of the overall landscape sensitivity.

Further, while it could be argued that the highway corridors do not form LCA precincts in their own right, their scale and influence on the character of the landscape and its sensitivity would suggest that they be given more consideration than a passing mention under Movement in Table 11 (page 39).

An approach similar to that adopted for evaluating cultural heritage landscapes (ie evaluation of representativeness, rarity etc), might assist in giving further robustness to the selection of LCAs and their relative sensitivity.

The contribution of consultation outcomes is also crucial in establishing the nature and sensitivity of LCAs and this does not appear to be adequately addressed in this part of the LVIA (see below under Consultation for further commentary on this issue).

Visual Impact Assessment

While the GBD assessment goes to some length to describe the elements that together make up the collective visual impact, there appears to be some lack of definition in the report between what the proponent argues are quantitative and qualitative impacts.

This arguably muddies the waters between matters that should be largely uncontested (ie you can or cannot see an item in the landscape from a given location) as opposed to those qualitative - and thus more subjective - aspects of perceived visual impact (ie 'I consider this to be the impact upon me').

While the total impact assessment results from a combination of quantitative and qualitative evaluation, it is suggested that it would assist clarity and reduce areas of contention if the LVIA drew a clearer distinction between which aspects of the assessment are deemed quantitative and which qualitative, before the two assessments are combined.

Quantitative

With respect to the quantitative aspects of the visual assessment the authors suggest that there are several aspects of the LVIA that warrant further assessment:

- the LVIA comprehensively details the degree of varying visibility of the turbines based on differing weather patterns, colour of turbines, distance etc. It tends however to underplay the visual prominence inherent in the ridgeline location of the turbines in section 4.6 Visibility and 5.1 Climatic and Atmospheric Conditions. While it could be argued that if white turbines were located on the lower farmland, they would contrast strongly in sunshine with the silhouetted backdrop of the ridges, (as can be seen from some of the turbines adjoining nearby Lake George) for the great majority of daylight hours and weather conditions their proposed location on the ridges inevitably make them more visually prominent at greater distance; hence the DGRs requirement that a viewshed of *no less than* 10kms be applied (and why the Scottish National Heritage guidelines recommended 25kms).

PART A: ASSESSMENT OF THE LVIA

- discussion in the LVIA about the visual impact when viewers observe elements of turbines - as opposed to total turbine - tends to be reduced or dismissed in significance. Clearly, if only the tip of a single turbine was visible to a viewer this would self evidently have a reduced quantitative visual impact. However the turbines tend to be viewed in an array or at minimum in combinations; to this extent minor variations in individual visible tower heights should not be lent undue emphasis, if the result of this is to disproportionately counter the reasonable notion that only a part of a turbine needs to be seen for the whole to be read in effect
- it should also be noted in this regard that the option of moving turbines anywhere between 27 - 165 metres to reduce impact will need to bear in mind distances to viewers will have some bearing on on this effectiveness. For distances over one kilometre from viewer to turbine, moving the location of turbine even 165 metres will make little appreciable reduction in visual impact, except if topography affected the visible height
- the significance of public domain impacts seem to be significantly understated - even at times omitted - in various locations throughout the LVIA. At 4.5, Page 27, second para, the assertion is made that 'a view towards greater number of wind turbines occur within private property and across tracts of unoccupied agricultural land'. This omits to mention the extensive views from various parts of the public domain, not least the two highways (see also Qualitative Assessment below)
- It is considered that the visual impact of the proposed Wind Farm upon Collector village is inadequately assessed in the LVIA. The village of Collector (resident population approximately 400) is treated as a single receptor (R32) in the visual impact assessment (Table 15, page 50) and no indication of the number of village residences with views of the proposal is provided. While the evaluation of each individual residence might prove unwarranted, the grouping of the whole village into one 'viewer' with very limited and unmapped descriptions of the variations that occur across more than 40 individual properties potentially results in a greatly understated visual impact assessment
- Furthermore no consideration has been given to areas of public domain within the village such as sporting fields or streets. While some degree of filtering of views by vegetation does occur in some parts of this public domain there are evidently clear views to the proposal site from important public places in and surrounding the village (see photos overleaf).
- Only one photomontage is provided from Collector (from the Bushranger's Hotel, Viewpoint V02) to indicate the visual impact upon the whole of Collector village.

This lack of consideration of the visual impacts upon the village is considered a shortcoming of the LVIA for the following reasons:

- The village is located in close proximity to the proposed turbines and wind farm (3.5 km).
- The project site is located upon a dominant ridgeline which creates a prominent backdrop to Collector and which is highly visible from the village.

PART A: ASSESSMENT OF THE LVIA

- The village is an area of concentrated urban development, correspondingly greater numbers of people are impacted by the proposal than the rural residential development in surrounding areas.

Assessment Criteria and Matrices

Five criteria are used in establishing the quantitative visual impacts in Tables 12 and 13, namely visibility, dynamic or static viewer, number of viewers, view distance and period of view. While these are commonly accepted elements to be assessed (other measures commonly used also include criteria for orientation and quantum of view) the LVIA does not indicate whether these are independently sourced criteria and definitions or developed by GBD.

Either source may be considered credible if the rationale are clearly stated (even though experts might differ in views on the exact measures in the Definition column); however the test of robustness in applying these quantitative measures becomes evident when viewed in combination in the matrices detailed in Tables 15 and 16, even before the single qualitative measure of View Locations Sensitivity in Table 14 is added (see Qualitative Assessment below for commentary on the latter).

The need to provide some form of simple scoring of criteria (eg High, Medium and Low) is unavoidable if combined criteria are to result in an overall impact assessment. However the application to the matrices in Tables 15 and 16 highlight some issues of concern:

- the matrices combine phrases (eg Context), numbers (eg Distance) and relative scores (High, Medium and Low). It is not clear how these variable measures can or could be combined or compared to reach an overall rating
- the differing aspects measured seem to vary in relative scoring scales (ie Visibility is on a three point scale while Number of Viewers on a four point scale). Again this seems to compromise comparative and combined scoring
- the report does not describe how overall scores are reached from combined scores with some evident inconsistencies in their application between Table 15 and Table 16
- In the absence of any relative weighting of particular criteria, the simple act of adding one or two extra criteria (such as orientation and quantum of view) could significantly affect the overall rating
- the Period of View criterion in Table 15, where its application is simply described throughout as 'Varies' does not play any useful role, yet it clearly affects scores in Table 16 where by implication it appears that 'Very Short Term' suggest a very low impact, making cross comparison between tables inviable
- The overall Visual Impact results in Table 16 appear in several cases to be inexplicable. For instance, it is not clear in P1 and P2 how, when the Distances are close, Numbers of People are High and View Location Sensitivity is High (see below for further commentary on Table 14) that the overall impact can be concluded as Low.

PART A: ASSESSMENT OF THE LVIA



The proposal site as backdrop to the Collector cemetery. Photo taken from location V1 (see location plan following)



The proposal site as backdrop to the Collector cemetery (zoom). Photo taken from location V1 (see location plan following)

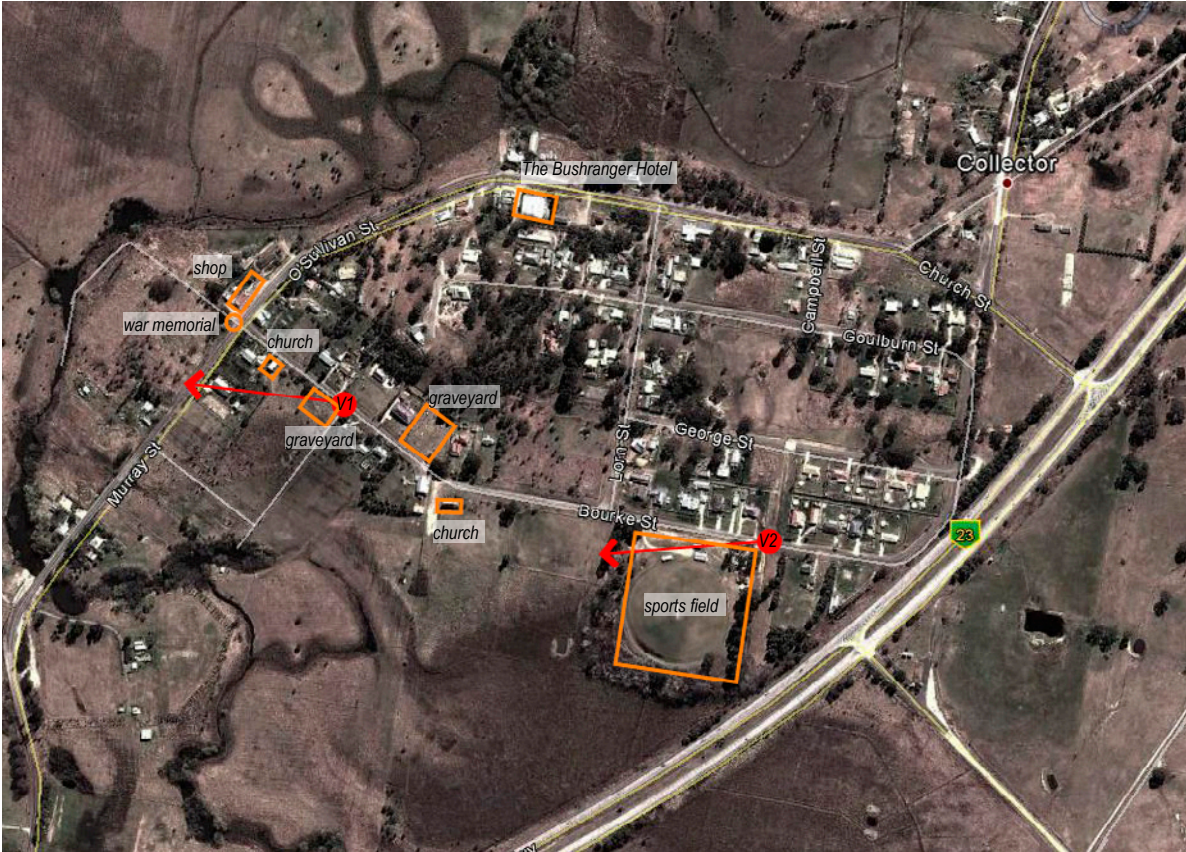
PART A: ASSESSMENT OF THE LVIA



The proposal site as backdrop to the Collector sports ground. Photo taken from location V2 (See location plan following).



The presence of over head power lines in the landscape. Photo taken from location V5 (See location plan following).



Site photo location plan showing viewpoints (1 and 2) and important sites and public domain within Collector Village. (Source Google Earth)



Site photo location plan showing viewpoints surrounding the proposal site (shown in red line). (Source Google Earth)

PART A: ASSESSMENT OF THE LVIA

Qualitative Assessment

One of the most contested and debated areas of such evaluations is in how best a qualitative visual impact can be established from a professional assessment. In this regard Table 14 in the LVIA plays a critical role. It is not however clear what source this table is derived from nor is their any explanation as to how the relative importance of View Category has been determined.

This is a crucial table as it forms the primary determinant of the qualitative visual impact assessments used in the matrices; however the absence of any background explanation as to its derivation and its lack of detail raises a number of questions about its application:

- how has the relative priority of categories been determined? While private residences may experience the most enduring impacts by virtue of context and period of view, NSW Land and Environment Court findings in cases such as for Rose Bay Marina have resulted in findings that the public domain should be considered to comprise the highest sensitivity. Equally there is an argument to say that view category priorities may not be the same in every landscape. Either way some justification is required for the order of category and associated sensitivity
- How is the sliding scale that contains 7 categories to be applied in the High Medium and Low scale?
- How would variations in viewer context be accommodated? For instance the scale applies only one View Category to Motorist, yet in this instance there would be a clear distinction in the context, experience and expectation of a motorist on the two highways as opposed to a resident using a local roads around Collector, moving to and from home.

Again there are no absolutes in establishing sensitivity criteria but if this single overall qualitative rating is to be justified it would seem that this table requires more explanation, more detailed variables and options and even some adaptation to the particulars of this proposal and landscape. The table in Appendix A developed by the authors gives an indication as to how they typically seek to clarify such assumptions on view categories and sensitivity.

The absence of any substantial assessment of public domain impacts is further in evidence in Table 16 and in the summary of visual impacts in section 8.5. In the former the selections of view locations (only nine in total) are almost exclusively motorists and in the latter the description focuses principally on farming activity which would occur on private land. Key public domain locations such as sports fields, the cemetery, the village centre paths or recreational trails (eg Bicentennial Trail) are either not mentioned or not assessed.

Cumulative Visual Impacts

Direct, Indirect and Sequential cumulative impacts are addressed in the LVIA but the degree to which any such impacts are either primary or contributory is not discussed. Given that the proposed windfarm is substantially larger than the existing Cullerin Farm it would seem that some discussion as to the relative scale of cumulative impact should be discussed.

PART A: ASSESSMENT OF THE LVIA

CONSULTATION

The application of the consultation undertaken for the LVIA does not appear to have been adequately integrated into the process itself and it is noteworthy that its appraisal appears towards the end of the LVIA and not closer the front of the document.

This is a critical element in assessing the visual impact - ie direct responses from the individuals and communities potentially most affected by the proposal - and should not simply be used as a means of establishing the relative levels of support for the proposal. The results of that consultation should directly inform and modify the professionally developed criteria used in the assessment.

In particular, while the report notes the specific landscape values that the respondents have identified (Section 14.1) these are not referenced anywhere in the establishment of the LCAs, landscape sensitivity or viewer sensitivities.

While many of these stated values are general in nature, some more comprehensive discussion of their implications for - and integration into - the assessment criteria would lend more credibility and robustness to the matrices and assessments in Tables 15 and 16 in particular.

PHOTOMONTAGES

The photomontages undertaken by Truescape Visual Communication appear to follow a rigorous industry standard methodology and have been composed using professional equipment. The methodology used has been well explained and the final images are clear and readable.

The process undertaken for precise photomontages is highly technical and so a full assessment of accuracy has not been possible by the authors. Although all the images appear to be accurate, only one image has been provided from within Collector village. Additional montages from this location may be helpful in describing the visual impacts from this area.

PART A: ASSESSMENT OF THE LVIA

MITIGATION MEASURES

The LVIA addresses the range of available and potential mitigative measures for the proposal's construction and operational stages appropriately, also providing principles to guide detailed construction management.

Importantly, mitigation assessments have already been employed to reduce the visual impacts of the proposal. The Preferred Project and Submissions Report indicates that the following design changes have been made to the original proposal to mitigate visual impacts:

- Removal of five wind turbines from the original proposal.
- Planting of screening to minimise the view of turbines at specific dwellings; to be conducted in consultation with those stakeholders

The LVIA nominates the following additional mitigation options possible at the Collector Wind Farm:

- Final colour selection of the wind turbine should reduce visual contrast.
- Planting of vegetation close to key view locations which have high visual impact rating.
- Roadside tree planting to reduce the visual impact from public roadways.
- Landscape treatments to screen and mitigate views from individual neighbouring properties.

The authors concur with GBD that the scale and location of the proposal is such that any additional mitigation measures (beyond actual reductions of numbers of turbines, as already proposed) such as screening measures close to the turbines would be impractical, ineffective and largely unwarranted. Accordingly, measures such as planting for screening close to the viewer location as outlined above would be the only practical and effective responses.

In this regard the LVIA states: *"the location and design of screen planting used as a mitigation measure is very site specific and requires detailed analysis of potential views and consultation with surrounding landowners....Subject to DP&I determination, the Proponent would consider implementing landscape treatments to screen and mitigate the potential visual impact of the wind farm for individual neighbouring properties (including those determined to have high visual impact)."*

In light of the fact that the majority of those residents surveyed (LVIA, Section 14.1 'Perception and Public Consultation') indicated that they had no significant objections to the proposal on visual impact grounds, it would seem appropriate that any planting within or adjoining properties be confined to those who specifically require such measures. Rather than undertake a detail evaluation of each property it would seem more practical to call for requests for mitigation and then assess each property for which a request has been made.

With respect to mitigation of public domain views, no similar survey of community perspectives is available. Given the reservations expressed earlier about the adequacy of the LVIA's assessment of public domain visual impacts, there would not appear to be an adequate basis either for or against any screening from public domain views. The most prudent default in this instance would seem to be to avoid any such screening where there is not a clear case made for its application.

PART A: ASSESSMENT OF THE LVIA

CONCLUSIONS ON SIGNIFICANCE OF IMPACTS

The Collector Wind Farm proposal is described by Green Bean Design as having “an overall low visual impact on the majority of non-associated residential and public view locations, including the Hume and Federal Highways as well as sections of local roads.”

Given the conclusions drawn on specific aspects of the LVIA outlined in this review it is not clear that the application of the revised or additional measures described in the review would result in the same overall impact assessment of ‘Low’.

However, the degree to which that rating might change can only be established by re-evaluating each of the criteria for all viewer categories and locations, which This Review is not intended to do.

Most of the issues raised in this review relate not to data, fieldwork results, surveys or photomontages, but rather to the rationale and criteria adopted in the assessment and thus the robustness of the conclusions drawn.

Accordingly, any such reconsideration would largely be a desktop exercise to establish whether a revised overall impact rating would apply.

While such a process would be the only safe means of drawing conclusions as to any potential change of overall impact, it is reasonable to conclude from the mostly comprehensive nature of the LVIA overall and in light of surveyed community attitudes to the proposal, that it is unlikely that the overall rating would move from Low to High.

Nonetheless, it would be important to undertake this exercise to provide greater credibility to the conclusions and a strong basis on which to establish the acceptability or otherwise of the proposal, both in its own right on visual impact grounds and when assessed in combination with other planning considerations.

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PART B: REVIEW OF RESPONSES

Green Bean Design has addressed the comments made in Richard Lamb Associates submission (dated 24th March 2013) which was prepared on behalf of the 'Friends of Collector'.

The RLA Submission

Where some aspects of RLA's submission are more general rather than specific, GBD has generally addressed the nature of the criticisms in a concise manner, including with reference to the original Director General's Requirements and the contents of the LVIA .

This Review provides a third party evaluation of many of the issues raised in the submissions and responses and thus there is no need to address each issue in detail again here (A more detailed overview of the RLA submissions and GBD's responses is provided in Appendix B).

The table in the appendix identifies where the authors believe that GBD's responses to the submission issues are adequately addressed and references those issues raised requiring further consideration with references to commentary in this Review.

Key issues raised by RLA that the authors consider require further clarity or a revised/ refined approach by the proponent and which are addressed earlier in this Review are:

- shortcomings in the Landscape Character and Sensitivity evaluation
- inadequate assessment of the public domain visual impacts
- the inadequacy of treating the whole of Collector Village as one viewer location
- the lack of integration of community surveys and resulting perspectives into the structure of the methodology, criteria and the resulting rating of impacts
- the absence of adequate consistency or explanation for the scoring system in the matrices (particularly in Tables 14-16) and thus lack of robustness in resultant rating.

Conclusions as to how these issues might be further addressed are provided in Section C: Conclusions and Recommendations.



Photograph showing existing farmland character and land uses near the study area. Photo taken from location V3 (See location plan,

PART C: CONCLUSIONS AND RECOMMENDATIONS

The following is a summary of the conclusions made in this Peer Review of the Collector Wind Farm LVIA and the recommendations on how these may be best addressed.

CONCLUSIONS

The LVIA prepared by GBD is comprehensive in nature and largely well referenced to current best practice in this field. While the rationale for many of the criteria adopted are well explained and substantiated, there remain a number of aspects of the LVIA that the authors suggest require either greater consideration, further clarification or revised criteria and ratings if the conclusions on the overall visual impact is to be adequately supported. These issues are summarised below:

Landscape Character and Sensitivity

- shortcomings in the Landscape Character and Sensitivity evaluation, particularly in the basis of the LCAs, absence of mapping and lack of integration of community survey outcomes in establishing values and sensitivity
- the need for a more substantive overview of the landuse controls to assist in establishing a 'baseline' for the assessment
- insufficient assessment of the visual impacts on cultural heritage features in the landscape.

Visual Impact

- inadequate assessment of the public domain visual impacts
- inherent shortcomings in treating the whole of Collector Village as one viewer
- apparent understatement of the inherent visibility at distance of the ridgeline location of the turbines and overstatement of reduced ZVI implication of viewing lesser parts of any given turbine
- insufficient explanation, detail or contextual adaptation of the View Category and Sensitivity in Table 14
- absence of adequate consistency or explanation for the scoring system in the matrices (particularly in Tables 14-16) and thus lack of robustness, comparability and consistency in resultant ratings.

Consultation

- the lack of integration of community surveys and resulting perspectives into the structure of the methodology, criteria and the resulting rating of impacts.

Mitigation Measures

- proposals for potential screening measures within the public domain that are not adequately supported through the public domain visual impact assessment.

Photomontages

- the potential need for more than one photomontage with the Collector Village.

Significance of Impacts

- The potential that the overall impact rating of 'Low' may be understated in light of the above considerations.

RECOMMENDATIONS

In light of the conclusions outlined by the authors in this Peer Review, it is recommended that the proponent be requested to review these conclusions and, subject to the DP&I's consideration of their response, the LVIA be refined and re-issued addressing these conclusions.

APPENDIX A: EXAMPLE OF VIEWER SENSITIVITY CRITERIA*

QUALITATIVE ASSESSMENT	
Receptor sensitivity	<p>Each visual receptor type has a varied sensitivity to change in the visual scene based on their personal context in which the view is being experienced. This will have a direct bearing on the perception of visual impact experienced by the receptor and qualifies the quantitative impacts.</p> <p>Note: This scale is provided for general guidance only. Viewer sensitivity levels may vary by landscape context and thus amendment should be made to this scale where and as required; evaluation and designation of the landscape character of the locality and consultation with affected parties as to the key values they place on the existing landscape will have a bearing on this scale adjustment.</p> <p>M Public Domain - General Roads: the view experienced can be important to the driver/passenger but is sometimes a brief experience and the driver is usually focused on the road</p> <p>M/H Public Domain - Streetscapes: the pedestrian may use streetscapes for a range of purposes from walking to work, shops, school, transport, the park and the like. Visual environment is important but attention is likely to be focused on the most direct route to destination and safe arrival in a busy environment</p> <p>H Public Domain - Designated Tourist Route: the purpose of the journey largely relates to the quality of the view, hence a high receptor sensitivity</p> <p>H Public Domain - Reserves and Corridors: the purpose of visiting and using reserves largely relates to an enhanced sense of wellbeing. Receptor is more sensitive to both positive and negative visual experiences, especially where the reserve is the destination for leisure and relaxation</p> <p>M/H Public Domain - Waterways: the purpose of being on the water may range from work to leisure; in either case sensitivity to change in the waterfront landscape may be elevated, although water users will often be mobile and therefore experience a range of views in any given trip</p> <p>M/H or H Private Domain - Residence: view from dwelling or garden may be experienced regularly over extended periods of time, particularly from living areas of a residence; residents may have chosen the location specifically for the view (and often orient the dwelling accordingly) and/or develop a strong familiarity and association with the view and have high sensitivity to change</p> <p>M Private/Public Domain - Work, Education, Retail: view can enhance the work, education or shopping experience but focus of activity is not principally on the view.</p>

* Source : CLOUSTON Associates

APPENDIX B: SUBMISSIONS AND RESPONSES

The table below contains (from left to right) submissions from the Friends of Collector (Submission Issue) prepared by Richard Lamb and Associates and in response to the draft proposals by the proponent; the subsequent responses by the proponent's consultants (GBD/Truescape Response); the conclusions drawn by the authors of this Peer Review (Authors' Conclusions). In the latter case, reference is made to the relevant section of the Peer Review document where the particular matter has been addressed in more detail.

Submission Issue	GBD/Truescape Response	Authors' Conclusions
Visual impact on landscape: suggests the removal of WTG above escarpment and industrialization of landscape	Removal of five WTGs in the north east of the project. Modification of the landscape with wind farm is consistent with common adaptations to rural life (including roads, drainage and power infrastructure etc).	The proposed removal of five WTGs (as illustrated in Fig 2 of this review) addresses this issue. Refinements to the LVIA are identified in these Peer Review recommendations to establish whether or not additional modifications are required.
Photomontages not objective or adequately portrayed	Prepared in accordance with best practice and must be viewed in accordance with a specific methodology. Response states that the photomontages: <i>"do not misrepresent the visual form of the proposal."</i> p52	This Peer Review does not address technical accuracy of photomontages however it would appear that GBD/Truescape have followed relevant guidelines for such montages.
Cumulative visual impact to the Collector township and wider area due to the saturation of the farms	LCVIA determined that the proposal would be unlikely to result in any cumulative visual impact from associated views toward existing wind farm developments within a 10km viewshed.	See Page 20 of this Review for commentary on Cumulative Impact.
RLA experience and methodology vs GBD methodology	Response challenges RLAs methodology and how it is applied. The methodology employed by GBD is based upon relevant recent professional experience (including 18 wind farm proposals); reference to international and local best practice guidelines by leading authorities and peer reviews of state government guidelines.	Both parties are recognised experts in the field of LCVIAs and it should be recognised that this a complex field where there are no absolutes. Focus should be on establishing definitions and criteria with robust assessment against both.
Methodology of the LCVIA – no preliminary assessment, no identification of stakeholder interests.	Community concerns are included (section 14). Preliminary assessment tasks are incorporated within the LCVIA in the nature of 5 tasks: - Desktop review - Information from local authority - Community and stakeholder interests - Site survey - Preliminary assessment of landscape values	See Page 21 of this Review for commentary on integration of consultation.

Submission Issue	GBD/Truescape Response	Authors' Conclusions
Community landscape values: 10km viewshed considered limiting and not reflective of community concerns.	Community concerns are included (section 14). 10km ZVI determined by DoPI and DGR. Cumulative impacts were considered up to 10km from site.	See page 13 and 14 of this Review for commentary on visibility and ZVIs.
Auswind Best Practice Guidelines seems cited not followed in LCVIA.	Guidelines were cited for completeness but EP&HSC Standing Committee has ceased development of them and they are no longer relevant.	GBD response appears to address this issue.
Representation of (5) public domain viewing positions are not relevant to the people who live and view the landscape near the wind farm.	Landscape sensitivity assessment and consideration of stakeholder values are included in the LVIA. 5 viewpoints were selected with community consultation, including typical views from roadways. Additional photomontages were prepared but not published due to landowner not giving permission.	While recognising GBD's response that public consultation determined the 5 public viewpoints, it is not clear from the LVIA the basis for selecting the particular viewpoints.
FoC criticized photomontages based on methodology and therefore the images do not adequately represent the scenario.	Images prepared to meet best practice. Public exhibition panels of photomontages were accurate size. Proponent has therefore met requirements of EA. InSite prepared new photomontages from different perspective, therefore these cannot be used for accurate comparison.	See above re: photomontage accuracy.
Landscape sensitivity parameters do not include culturally determined parameters and don't include Collector township. Differences between view locations with regard to assessment of visual impact are not explained.	Parameters for landscape sensitivity outlined in the report. Collector village is determined as 'highly sensitive'. Views from roadways are considered in table 16 of the LCVIA.	See page 20 of this Review for commentary on sensitivity.
Visibility is assessed subjectively. Viewer can identify, recognize and respond to turbines based on minimal information from the visual field.	Report uses methodology based on research and best practice. Report recognises the perception of a turbines at different distances and visibility.	See pages 13 and 14 of this Review for commentary on implications of viewing parts of turbines.

Submission Issue	GBD/Truescape Response	Authors' Conclusions
<p>RLA states that the assessment of cumulative impact is flawed as : "Views from the Hume Hwy are discounted as they are fleeting"</p> <p>Puts forward that major and minor roads need to be considered.</p>	<p>Visual impact for vehicles on road was determined on a larger methodology than includes:</p> <ul style="list-style-type: none"> - Direction relative to travel - Screening from existing veg - Short duration of views <p>GBD met all requirements placed on them by authorities (10km came from DGR)</p>	<p>See Page 20 of this Review for commentary on Cumulative Impact.</p>
<p>Rating of visibility as a parameter is not explained in the report.</p>	<p>Report provided ratings in ZVI. Visibility is key in determination of visual significance.</p>	<p>See pages 13 and 14 of this Review for commentary on visibility and ZVIs.</p>
<p>Assessment of landscape character areas and sensitivity was based only on professional judgement.</p> <p>Descriptions and analysis is not transparent.</p> <p>Criteria used are not local and therefore are of limited significance.</p> <p>Assessment of sensitivity is not satisfactory.</p> <p>No evidence that community consultation was involved as claimed in methodology.</p>	<p>The report references a number of reports produced by leading agencies and constitutes good practice assessment.</p> <p>Community consultation at Collector was undertaken and has advised the LCVIA. It included surveys, open days, meetings. The process is outlined in Section 14 of the LCVIA. 68% supported the Collector wind farm proposal. 60% considered that the landscape they enjoyed most would have no impact or minimal impact from the proposal. A minority, 13% considered the proposal would be an eyesore and ruin the landscape.</p>	<p>See pages 11-13 for commentary on LCAs and sensitivity.</p>

Submission Issue	GBD/Truescape Response	Authors' Conclusions
<p>VIA criteria and matrix.</p> <p>How was sensitivity of each residence determined?</p> <p>Whole of Collector is lumped under one viewpoint.</p> <p>Period of viewing needs to be explained.</p> <p>The Trail wasn't assessed with regard to cumulative impacts.</p> <p>RLA disputes logic of statement commenting on perceptions being varied in the population (ie some perceptions can be positive), claims this makes the assessment inadequate.</p>	<p>Multiple criteria applied to matrix to ensure all factors contribute to the visual impact level attributed but doesn't explain how the considerations were weighted.</p> <p>Collector was assessed as a single viewpoint: logistics, complexity of views, no impact for vast majority. Collector was attributed a moderate – high visual impact.</p> <p>Period of view is explained in table 12. Determined by daylight hours of visibility.</p> <p>Bicentennial Trail considered in its entirety to have a low cumulative impact from proposal. Part of the trail runs through the site but this accounts for 0.2% of total trail length.</p> <p>Variety of community perceptions about wind turbines (ie not all are negative) was documented in community consultation process.</p>	<p>See page 20 of this Review for commentary on matrices and sensitivity.</p> <p>See page 14 of this review for commentary on Collector Village being assessed as one viewer.</p> <p>See page 15 of this Review for commentary on Period of Review.</p> <p>See page 12 of this Review for commentary on Bicentennial Trail and heritage sites.</p> <p>Consultation findings for this project suggest that community perceptions do vary with respect to wind farms.</p>
<p>Cumulative impacts: 10km viewshed is not correct context for cumulative impact assessment, especially considering Collector wind farm will be far larger than the existing Cullerin wind farm.</p>	<p>DGR requirements met with 10km viewshed</p> <p>GBD professional opinion derived from experience is that wind farms are visible at 20km viewshed.</p> <p>Collector considered moderate size (some farms 200+ turbines)</p> <p>Case for low cumulative impact represented in the LCVIA adequately.</p>	<p>See Page 20 of this Review for commentary on Cumulative Impact and Page 13 for commentary on view distance and viewsheds.</p>

Submission Issue	GBD/Truescape Response	Authors' Conclusions
<p>Proposes that the visual impact of turbines to the town is deceptive, using a wide angle lens to make the proposal appear distant and indistinguishable.</p>	<p>Photomontages simulate specific technical criteria established in methodology including degrees, lens used, climatic conditions.</p> <p>Truescape images are superior to RLA single frame images presented in FoC reports.</p> <p>Images must be viewed in accordance with specified methodology to be accurate.</p> <p>Reducing Truescape images to A3 and comparing them alongside InSites images is not accurate comparison as it doesn't fit the methodology mentioned above.</p>	<p>The methodology applied by Truescape Visual Communications appears rigorous.</p>

