

VICTORIAN CIVIL AND ADMINISTRATIVE TRIBUNAL

ADMINISTRATIVE DIVISION

PLANNING AND ENVIRONMENT LIST

VCAT REFERENCE NOS. P1816/2011, P1818/2011
P1820/2011, P1822/2011, P1829/2011 & P1846/2011

In P1829/2011 & P1846/2011:

APPLICANT Dual Gas Pty Ltd
RESPONDENT / AUTHORITY Environment Protection Authority

In P1816/2011, P1818/2011, P1820/2011 & P1822/2011:

APPLICANTS P1816/2011 Martin Shield
P1818/2011 Doctors for the Environment Australia Inc.
P1820/2011 Environment Victoria Inc.
P1822/2011 Locals into Victoria's Environment Inc.
RESPONDENT / AUTHORITY Environment Protection Authority
RESPONDENT Dual Gas Pty Ltd

CLOSING SUBMISSIONS ON BEHALF OF

ENVIRONMENT VICTORIA INC.

AND

LOCALS INTO VICTORIA'S ENVIRONMENT INC.

INTRODUCTION

1. These submissions are made on behalf of Environment Victoria Inc. (*EV*) and Locals Into Victoria's Environment Inc. (*LIVE*).
2. The applications for review brought by EV and LIVE are made under s.33B(2)(b) of the *Environment Protection Act 1970* (Vic) (*EP Act*) concern the decision of the Environment Protection Authority (*EPA*) to grant Works Approval No. WA67043 (*the Works Approval*) in relation to a proposal to

construct the Dual Gas Demonstration Plant (*DGDP*) in Morwell, Victoria (*the proposal*).

3. Dual Gas has also applied for review of the decision of the EPA to grant the Works Approval on the basis that it constitutes a constructive refusal of their application for a 600MW power plant. EV has been joined as a party to this proceeding.
4. EV and LIVE's applications should be upheld, and Dual Gas' application rejected, because:
 - (a) The proposal is inconsistent with the principles of environment protection (*Principles*) which the Tribunal is required to apply under s 1A of the EP Act and clause 13(1) of the *State Environment Protection Policy (Air Quality Management) (SEPP (AQM))*;
 - (b) The proposal is inconsistent with the broader government policy framework, in particular:
 - (i) The 20% emissions reduction target set by s 5 of the *Climate Change Act 2010 (Vic) (the Emissions Target)*;
 - (ii) The 0.8 tCO₂e/MWh emissions target set to which both the State Labor and Liberal parties have committed (*the Intensity Target*);
 - (c) The proposal is inconsistent with the obligation to demonstrate best practice in the management of emissions under clauses 18, 19 and 33 of SEPP (AQM); and
 - (d) The assertions made on behalf of Dual Gas in support of the project, both in argument and by its witnesses, have not been made out by the evidence in the case taken as a whole.

EP ACT - FRAMEWORK FOR DECISION

5. Before turning to each of these grounds in detail, it is necessary to say something about:

- (a) the use of the word 'inconsistent' and the proper approach to the construction of s.33B(2)(b);
 - (b) the relevance of the Protocol for Environment Management - Greenhouse Gas Emissions and Energy Efficiency in Industry.
6. In summary, it is submitted that if the proposal is "inconsistent" with the SEPP (AQM) then the Tribunal must allow the applications for review.

"Inconsistent" with the SEPP

7. The notion of consistency and inconsistency with SEPPs is crucial to the operation of the framework established by the EP Act:
- (a) The purpose of the EP Act is to create a framework for the protection of the environment.¹ The various SEPPs give substantive content to the framework of environmental protection established by the EP Act.
 - (b) In order for the EP Act to effectively achieve its environmental protection purposes, it must ensure that the SEPPs are adhered to.
 - (c) The EP Act does so by requiring decision-makers to apply the SEPP in the evaluation of applications and to refuse any application which is inconsistent with the SEPP:
 - (i) Section 20C(2) requires the EPA to ensure that any authorisation is 'consistent' with the relevant SEPPs. Section 20C(3)(a)(i) permits - and arguably requires - the EPA to refuse an application where it is inconsistent with the SEPP;
 - (ii) Section 33B(2)(b) permits a third party to seek review of a decision to grant an authorisation on the basis that an approval is, or will be, 'inconsistent' with a relevant SEPP. Where inconsistency is demonstrated, the Tribunal is arguably required to refuse to grant the authorisation; and

¹ Section 1A, *Environment Protection Act 1970* (Vic).

- (iii) Section 37A(c) requires the Tribunal on review to 'take into account, and give effect to' any relevant SEPP.
8. 'Inconsistent' as used in the EP Act has its ordinary and natural meaning, encompassing both active antipathy and lesser degrees of inconsistency:
- (a) The starting point for considering the meaning of a non-technical word in a statute is its ordinary and natural meaning.² In the present case, the ordinary and natural meaning of inconsistent does not require antipathy:
- (i) Dictionary definitions of inconsistency do not refer to antipathy as a necessary element of inconsistency. Inconsistent is defined in the *Oxford English Dictionary* as 'not in keeping, discordant, at variance', 'incompatible, incongruous' and 'lacking harmony between different parts and elements'.³ A similar definition appears in the *Macquarie Dictionary*.⁴
- (ii) Similarly, synonyms for inconsistent encompass both antipathy (e.g. 'contrary', 'incompatible', 'irreconcilable') and less direct inconsistency ('discrepant', 'dissonant', 'incongruent').
- (b) Treating inconsistent in its natural and ordinary meaning as not requiring antipathy is consistent with the approach of the NSW Land and Environment Court in cases where it has considered the matter:
- (i) In *Gillespies v Warringah SC*, Bignold J distinguished a line of cases which had interpreted inconsistency as requiring antipathy⁵ and held that the word 'consistent' appearing in a Local Environment Plan 'assumes its ordinary and natural meaning', which 'is *not confined* to the notion of the proposed development "not being antipathetic" to the desired future character of the Locality.' (emphasis original).⁶

² Pearce and Geddes, *Statutory Interpretation in Australia* (7th ed., 2011), [4.8] (*Pearce and Geddes*)

³ *The New Shorter Oxford English Dictionary* (3rd ed., 1993), 1341

⁴ *Macquarie Dictionary* (3rd ed., 1999), 1081, relevantly: 'lacking in harmony between the different parts or elements; self-contradictory', 'lacking agreement, as one thing with another, or two or more things in relation to each other; at variance', 'not consistent in principles, conduct, etc.'

⁵ See, e.g., *Coffs Harbour Environment Centre Inc v Coffs Harbour City Council* (1991) 74 LGRA 185, 192 per Clarke JA; *Schaffer Ltd v Hawkesbury City Council* (1992) 77 LGRA 21, 27 per Pearlman J

⁶ (2003) 124 LGRA 147, [70]

(ii) His Honour continued that the word 'antipathetic'

indicates a far stronger, but narrower connotation than the connotation of the word "inconsistent". Clearly, there can be an "inconsistency" with a stated object which does *not* involve any element of antipathy to that object. (emphasis original)⁷

(iii) This approach was approved by Biscoe J, sitting with Commissioner Tuor, in *Addenbrooke Pty Ltd v Woollahra Municipal Council*.⁸

(c) Grammatical considerations also support the view that inconsistency within the meaning of the EP Act does not require antipathy:

(i) Section 20C(3)(a)(i) provides that an application may be refused if it is 'contrary to, or inconsistent with' a SEPP.

(ii) The juxtaposition of 'contrary to' and 'inconsistent with' would be redundant if inconsistency required antipathy. Treating inconsistency as not requiring antipathy avoids this redundancy and is consistent with the interpretative obligation to give effect to as much of the legislation as possible.⁹

(iii) The same meaning should be given to 'inconsistent' in s 33B(2)(b). There is a legislative presumption that words have the same meaning through an Act.¹⁰ Moreover, it would be problematic if inconsistency meant one thing when the EPA was making a decision and another thing when the Tribunal was making a decision.

(d) A broad interpretation of 'inconsistent' would promote the purposes of the EP Act by enhancing the enforceability of what is a crucial part of the regulatory regime:

⁷ Ibid, [71]

⁸ [2008] NSWLEC 190, [45]. In other cases, the Court has acknowledged the existence of two approaches to consistency, but held that the application of either approach would lead to the same result: see, e.g., *New Century Developments Pty Ltd v Baulkham Hills SC* (2003) 127 LGERA 303

⁹ Pearce and Geddes, ???

¹⁰ Ibid,???

- (i) The modern approach to statutory interpretation requires that general words, such as 'inconsistent', be construed in light of the 'context and legislative purpose' of the statute in which they appear,¹¹ 'in particular the mischief it is seeking to remedy.'¹²
- (ii) As explained above, the purpose of the EP Act is to protect the environment. SEPPs are a crucial part of the regulatory framework established by the EP Act as they give substantive content to the idea of environmental protection in the context of particular environmental matters.
- (iii) As also stated above, it is the requirement of consistency that provides the link between the framework of the EP Act and the substantive content of the relevant SEPP. In this context, a narrow reading of 'inconsistent' would curtail the scope of the EP Act and impair its ability to achieve its purposes, particularly in respect of qualitative goals like ensuring best practice, where a demonstration of antipathy may be difficult or impossible.
- (iv) Moreover, the grounds on which the EPA or the Tribunal may refuse an application under s 20C or s 33B are relatively confined. Apart from inconsistency, an application may only be refused in the extreme cases that the applicant has committed prior environmental offences or the works would create an environmental hazard or result in the criminal offence of pollution. As such, a narrow reading of inconsistency would undermine the ability of the EPA to refuse applications that were inconsistent with the statutory purpose of environment protection and had the potential to cause damage to the environment.

9. The EP Act requires refusal of applications which are inconsistent with a SEPP:

¹¹ *Alcan (NT) Alumina Pty Ltd v Commissioner of Territory Revenue (Northern Territory)* (2009) 239 CLR 27, 31 per French CJ; see also *CIC Insurance Ltd v Bankstown Football Club* (1997) 187 CLR 384, 408.

¹² *Alcan*, *ibid*, 47, per Hayne, Heydon, Crennan and Kiefel JJ. Their Honours cited *Heydon's Case* (1584) 76 ER 637 in support of this principle. There, the Court emphasised, at 638, the need to 'suppress subtle inventions and evasions' in interpreting a statute.

- (a) The word 'may' in legislation is often ambiguous and can create either a duty or discretion, depending on the proper construction of the section.¹³ In *Julius v Bishop of Oxford*, Earl Cairns observed

there may be something in the nature of the thing empowered to be done, something in the conditions under which it is to be done, something in the title of the person or persons for whose benefit the power is to be exercised which may couple the power with a duty, and make it the duty of the person in whom the power is reposed to exercise that power when called upon to do so.¹⁴

- (b) In the present case, ss 20C(2) and 37A(c) impose an obligation on the relevant decision-maker to ensure that approvals are 'consistent' with the SEPP and to 'give effect to' the SEPP, respectively. To grant a works approval which was inconsistent with the SEPP would be to fail to comply with these statutory duties.
- (c) Section 45(1) of the *Interpretation of Legislation Act 1984* (Vic) (*Interpretation Act*) does not apply to s 20C(3) or s 33B(2):¹⁵
- (i) Section 45(1) is, in terms, only applicable to Acts passed after the commencement of the Interpretation Act on 1 July 1984;
 - (ii) Sections 20C(3) and 33B(2) were enacted by the *Environment Protection (Review) Act 1984* (Vic);
 - (iii) The *Environment Protection (Review) Act* was passed on 22 May 1984.¹⁶
 - (iv) Accordingly, s 45(1) of the Interpretation Act does not prevent s 20C(3) and s 33B(2) of the EP Act being interpreted as imposing a duty.

¹³ See, e.g., *Julius v Bishop of Oxford* (1880) 5 App Cas 214; *Finance Facilities Pty Ltd v Federal Commissioner of Taxation* (1971) 127 CLR 106; and *Encyclopaedia Britannica (Australia) v Director of Consumer Affairs* [1998] VR 904, 912

¹⁴ (1880) 5 App Cas 214, 222 – 223

¹⁵ See *Encyclopaedia Britannica (Australia) v Director of Consumer Affairs* [1998] VR 904, 912

¹⁶ Section 11(3) of the *Interpretation of Legislation Act 1984* (Vic) provides that an Act is passed on the day on which it receives Royal Assent.

- (v) The fact that s 20C(3) and s 33B(2) may have been amended, or even substituted does not change this conclusion. In *Shields v Chief Commissioner of Police*, Bell J held that s 45 of the Interpretation Act does not apply to amending legislation where the principal legislation being amended was passed prior to 1984.¹⁷
10. It must be noted that both s 20C(2) and s 37A(c) impose an affirmative obligation on the Tribunal to be satisfied that a proposal is consistent with the SEPP before granting approval:
- (a) Section 20C(2) imposes a duty on the EPA, and by extension on the Tribunal on review,¹⁸ to ‘have regard to policy so that the authorisation ... is consistent with all applicable policies.’
 - (b) To the same effect, s 37A(c) imposes a duty on the Tribunal on review to ‘give effect to’ any relevant SEPP. To approve a proposal that was inconsistent with a SEPP would be to fail to give effect to that SEPP.
 - (c) Accordingly, if the Tribunal is not affirmatively satisfied that a proposal is consistent with the relevant SEPPs, it must refuse the application.
 - (d) This approach is consistent with the environment protection purposes of the EP Act and, in particular, the precautionary principle contained in s 1C of the EP Act and s 7(2) of SEPP (AQM).
11. Even if the EP Act does not require refusal then, given the duty imposed on the Tribunal by s 37A(c) to ‘give effect to’ the SEPPs, the Tribunal should be extremely reluctant to exercise its discretion in favour of any proposal that is inconsistent with a relevant SEPP.

Protocol for Environmental Management – Greenhouse Gas Emissions and Energy Efficiency in Industry

¹⁷ (2008) 19 VR 33, [108] – [109]

¹⁸ Section 51 of the *Victorian Civil and Administrative Tribunal Act 1998* (Vic) provides that the Tribunal has all the ‘functions, powers and duties’ of the original decision-making, in this case the EPA.

12. Before leaving the topic of consistency, it is also necessary to say something about the *Protocol for Environmental Management – Greenhouse Gas Emissions and Energy Efficiency in Industry (PEM)*.
13. Clause 15 of SEPP (AQM) provides that the EPA ‘will develop protocols for environmental management [PEM] as incorporated documents to this policy.’ The phrase ‘incorporated document’ is not defined in the SEPP.
14. In 2002, the EPA developed a PEM for greenhouse gases. The PEM states

The protocol specifies the steps that will need to be taken by businesses to demonstrate compliance with the policy principles and provisions of SEPP (AQM) related to energy efficiency and greenhouse gas emissions, and how EPA will assess compliance.¹⁹
15. Notwithstanding this assertion by the PEM, the PEM is of little relevance in this case and cannot be used by Dual Gas to demonstrate its compliance or otherwise with the requirements of SEPP (AQM):
 - (a) The PEM in this case, as it is clearly directed to energy consumers, rather than energy producers:
 - (i) In terms, the PEM is directed to businesses that produce greenhouse emissions:
 - (1) by consuming energy from third party energy generators, described in the PEM as *energy consumption*; and
 - (2) through works / activities / processes not associated with energy, described in the PEM as *non-energy greenhouse gas emissions*.
 - (ii) As a power station, the DGDP is not an energy consumer and has limited non-energy greenhouse gas emissions. It is quite clear that the authors of the PEM were not thinking about power stations in

¹⁹ EPA, *Protocol for Environmental Management – Greenhouse Gas Emissions and Energy Efficiency in Industry* (2002), Tribunal Book, Folder 3, Volume 1, EVL.050.247 [1.1]

drafting this document. This impression is confirmed by the fact that the starting point for what is the highest category of scrutiny under the PEM – more than 1,400 tonnes of emissions per annum – is several orders of magnitude smaller than the lowest estimate of emissions from the DGDP or, indeed, any fossil fuel power station.

- (iii) It would be inappropriate to rely on the PEM as evidencing compliance with the SEPP by an entity which was clearly not in the drafter's contemplation at the time the PEM was prepared.
- (b) Moreover, nothing in the SEPP indicates that the PEM is intended to be a complete code. Whilst clause 33(3) of the SEPP provides that the EPA 'will apply' the PEM, there is no indication that the application of the PEM excludes consideration of other matters.
- (c) Ultimately, it is clear that the EP Act requires the EPA, or the Tribunal on review, to consider whether a particular project is consistent with the provisions of the SEPP. It is entirely possible that there may be circumstances in which a project complies with the PEM but not the SEPP.
- (d) In any event, the proposal does not comply with the PEM. The PEM expressly requires applicants to demonstrate best practice in the management of emissions.²⁰ The DGDP fails to do this because its emissions significantly exceed those required to obtain the same benefits as provided by the DGDP.

INCONSISTENCY WITH THE PRINCIPLES OF ENVIRONMENT PROTECTION

16. The principles of environmental protection are not simply aspirational statements:

²⁰ EPA, *Protocol for Environmental Management – Greenhouse Gas Emissions and Energy Efficiency in Industry* (2002), 4 and 6

- (a) Clause 13 of the SEPP (AQM) specifically states that, 'when making decisions', the EPA 'will apply' the Principles. Both the mandatory nature of the language and the use of the verb 'apply' indicate that the Principles are not simply general goals to be aimed at.
- (b) Whilst the EP Act does not specifically require the application of the Principles, their importance in the administration of the Act is emphasised by the fact that s 1A(3) expressly states that:

It is the intention of Parliament that in the administration of this Act regard should be given to the principles of environment protection.

- (c) In this regard, it is important to note that, unlike the policy provisions of the various planning schemes, the Principles all pull in one direction. Construed properly, the Principles all aim at ensuring optimal environmental protection.²¹ As such, the Principles are readily capable of application.
- (d) This interpretation is consistent with the Second Reading Speech for the *Environment Protection (Liveable Neighbourhoods) Act 2001*, which introduced the Principles into the EP Act. Ms Garbutt, the Minister for Conservation and the Environment, explained that the purpose of the Principles was to 'provide some real guidance to decision makers as to how [the EP Act] should be administered.'
- (e) Treating the Principles as having real application supports the environment protection purposes of the EP Act. As Justice Preston, Chief Judge of the NSW Land and Environment Court, stated in *Hub Action Group Inc v Minister for Planning*:

In order to achieve sustainability ... hortatory statements of principles and aspirational goals are insufficient; the grand strategy must be translated into action. This involves not only institutionalizing the principles of ecologically sustainable

²¹ Explained below in the context of the principle of integration.

development in policies and laws, but also ensuring that functions under those policies and law are exercised in a way so as to promote and implement the principles of ecologically sustainable development. This involves good governance.

Implementing sustainability also requires that the principles of ecologically sustainable development inform project design, including the nature, scope, extent, life and other features of a proposed development and its location.²²

Principle of Integration

17. Section 1B of the Act and clause 7(1) of the SEPP (AQM) require the integration of economic, social and environmental matters in decision-making (*the principle of integration*).
18. As correctly recognised by the EPA, in its Works Approval Assessment Report (WAAR),²³ the purpose of the principle of integration is to ensure that social and environmental concerns are given equal attention in decision-making, rather than being treated as matters to be addressed after the decision has been made to go ahead.
19. As Preston CJ stated in *Telstra v Hornsby Shire Council (Telstra)*, the principle of integration was the ‘philosophical underpinning’ of the World Commission on Environment and Development’s *Our Common Future* report, which ‘recognised that the ecologically harmful cycle caused by economic development without regard to and at the cost of the environment could only be broken by integrating environmental concerns with economic goals.’²⁴
20. The most useful exposition of how the principle of integration applies in practice is that given by Dr Gerry Bates, the author of *Environmental Law in Australia*:

²² (2007) 161 LGERA 136, [2] – [3]

²³ EPA, Works Approval Assessment Report, page EPA.010.151-R, Folder 1, Tribunal Books.

²⁴ *Telstra v Hornsby Shire Council* (2006) 67 NSWLR 256, [111]

The true objective of ESD is integration not environmental dominance. ... ESD introduces the notion of *integrating* economic and environmental factors, though arguably in decision-making this will become a *balancing* exercise where, as inevitably happens, the fulfilment of both objectives cannot be maximised. In other words, there are bound to be trade-offs between the often competing components of ESD. ESD attempts to maximise the combined total of economic, social and environment values of resource use; but to do this some of the elements that make up these value may have to be traded one against the other. Application of ESD may therefore be said to pursue *optimal* protection of environmental values rather than *maximum* protection.²⁵

21. This approach to the principle of integration is consistent with the framework of the EP Act. Whilst the central purpose of the Act is to protect the environment, the works approval and licensing regimes necessarily contemplate that environmentally damaging activities may be lawfully undertaken where they provide a benefit to the community.
22. Importantly, however, the principle does not derogate from the fact that the objective of the legislation is environmental protection. Rather, it requires a particular approach to determining what might be an acceptable impost on the environment. A project that fails to provide optimal protection of the environment, i.e. one in which the costs exceed the benefits, will be inconsistent with the application of the principle of integration.
23. The proposal by Dual Gas is inconsistent with the principle of integration:
 - (a) The environmental costs of approving the DGDP are clear – approximately 3.2 million tonnes of CO₂e per annum.²⁶ This is 1.8m tonnes of additional CO₂e emissions per annum over and above the emissions of an equivalent sized natural gas powered combined-cycle gas

²⁵ Gerry Bates, *Environmental Law in Australia* (7th ed., 2010), p 215

²⁶ Statement of Alex Blatchford, Tribunal Book, Folder 6, DGA.200.08, 3.9

turbine (*CCGT*) power plant producing the same amount of power.²⁷ With those additional emissions comes a small, but significant, increase in the risk of climate change.²⁸

- (b) There are no countervailing benefits associated with the DGDP which would offset the cost associated with the proposal:
 - (i) There is no need for additional generating capacity of the kind provided by the DGDP. To the extent there is any need for additional generating capacity, it is peaking capacity which the DGDP will not provide.²⁹
 - (ii) Two of the principal matters relied upon by Dual Gas in support of its application, namely the potential for the development of carbon capture and sequestration (*CCS*) technology and the Contract for Closure (*CFC*) program, are entirely causally independent of the DGDP application and are matters over which Dual Gas has no control.
 - (iii) The evidence provided by Dual Gas suggests that the DGDP provides no benefit that cannot be obtained at a lower environmental cost:
 - (1) The evidence regarding the social impacts of the DGDP is limited and incomplete. Even assuming that the Tribunal should give any weight to the Triple Bottom Line Analysis conducted by SKM (the authors of which have not been called and the conclusions have not been tested), on its face, nothing in the document establishes the contention that the DGDP will offer greater social benefits than a comparably sized *CCGT* power plant.³⁰

²⁷ Case 2 of The DGDP has a GEI of 0.78, whereas *CCGT* has a GEI of 0.34, roughly half that of the DGDP (see, for example, Statement of Alex Blatchford, Tribunal book, Folder 6, DGA.200.095, Figure 9). On this basis, the DGDP will emit roughly double the CO₂e for every unit of electricity generated than *CCGT*.

²⁸ Statement of Dr David Karoly, Tribunal Book, Folder 8, Volume 2, EVL.300.658[17]

²⁹ Transcript, 1334, ln 23 -1335, ln 1; Statement of Jeff Washusen,, Tribunal Book, Folder 4, Volume 1, EPA.100.345 [168] and EPA.100.359 [199]-[205];

³⁰ See paragraph 60 below

- (2) The evidence regarding the economic impacts of the DGDP is also problematic. The basis of the economic case advanced by Dual Gas has never been completely disclosed or subjected to transparent independent critical review. It comprises a mixture of unknown assumptions presented by Mr Walton – the company man. Nothing would turn on that fact if in this case the economic issues were not determinative or important. But they are – Dual Gas has made them so. Dual Gas positively advances its case on the basis that there will be or are economic benefits, yet the proof of those benefits lies hidden behind the cloak of “commercial in confidence”.³¹ On the face of what is available for the Tribunal to assess, Dual Gas cannot make out its case. The better view (even if only because its assumptions are clearly stated) is that of Dr Washusen, for the EPA, that the per unit price of electricity produced by the DGDP is likely to be higher than for a comparably sized CCGT plant.³²
- (iv) Other matters relied upon by Dual Gas in support of their application are speculative, such as the possibility of exporting IDGCC technology to other countries, or extremely unlikely to occur, such as the proposal being responsible for the displacement of existing brown coal generating capacity rather than accepting the more likely event that existing brown coal power plants will continue to operate as long as they can in a policy context which seeks to end their operation as soon as possible.³³
- (v) It is also unclear whether some of the matters described by Dual Gas as benefits are necessarily benefits. In particular, the continued use of brown coal, and any associated lower electricity prices, is not an unquestionable benefit³⁴.

³¹ See, for example, transcript, 1227, ln 1 – 1228, ln 7.

³² Statement of Jeff Washusen, Tribunal Book, Folder 4, Volume 1, EPA.100.350 and EPA.100.351, [182]-[183]; Table 4; Statement of Jeff Washusen, Tribunal Book, Folder 4, Volume 1, EPA.100.357-358 [197]-[198] and Transcript, 1328, ln 11 – 16

³³ Statement of Jeff Washusen, Tribunal Book, Folder 4, Volume 1, EPA.100.361, [211]-[212]

³⁴ See paragraph 72, below

- (vi) These matters will be explored in more detail in the final part of these submissions.

Precautionary Principle

24. Section 1C of the EP Act and clause 7(2) of the SEPP require the application of the 'precautionary principle'. As formulated in the Act and the SEPP, the principle requires that:

Decision making should be guided by-

- (a) a careful evaluation to avoid serious or irreversible damage to the environment wherever practicable; and
- (b) an assessment of the risk-weighted consequences of various options.

25. The precautionary principle is applicable in this case:

- (a) There are two conditions precedent to the application of the precautionary principle. As described by Preston CJ in *Telstra*, these are:
 - (i) a threat of serious or irreversible environmental damage; and
 - (ii) scientific uncertainty as to the environmental damage.³⁵
- (b) Both these conditions are met:
 - (i) Climate change clearly poses a threat of serious or irreversible environmental damage;³⁶
 - (ii) There is uncertainty, however, over many aspects of climate change, such as the impact of particular quantities of CO₂e into the atmosphere. In this regard, Dr Karoly gave evidence that the emissions from the DGDP would make a 'small, but significant'

³⁵ (2006) 67 NSWLR 256, [128]. Chief Judge Preston's analysis of the precautionary principle in *Telstra* has been applied by Osborn J in *Rozen v Macedon Ranges SC* (2010) 181 LGERA 370 and *Environment East Gippsland v VicForests* [2010] VSC 335.

³⁶ See for example, the Statement of Dr David Karoly, Tribunal Book, Folder 8, Volume 2, EVL.300.656 [9]

contribution to the risk of climate change.³⁷ This may be compared to the ‘additional, but unquantifiable, risk’ of water contamination held to justify the application of the precautionary principle in *Rozen v Macedon Ranges SC*.³⁸

(iii) As the WAAR succinctly observes:

Given the lack of full scientific certainty about, yet potentially significant consequences of, climate change, this assessment considers that a proposal to emit a significant volume of GHG emissions into the environment triggers the application of the precautionary principle.³⁹

26. For present purposes, two features of the precautionary principle are relevant:

(a) The principle requires consideration of ‘an assessment of the risk-weighted consequences of various options’:

(i) The requirement to consider ‘various options’ obliges a decision-maker to consider the range of outcomes associated with a decision in relation to a proposal. Importantly, a relevant matter for consideration is whether there are different and potentially better ways to undertake the activity for which permission is sought;

(ii) In the present case, two alternatives in particular should be considered in deciding whether to grant approval for the proposal:

- (1) The provision of an equivalent amount of power by the construction of a CCGT power plant with lower emissions; and
- (2) Refusing the application and doing nothing for a short period, avoiding emissions in the short term and enabling further development of gas turbine technology and CCS.⁴⁰

³⁷ Statement of Dr David Karoly, Tribunal Book, Folder 8, Volume 2, EVL.300.658 [17]

³⁸ [2009] VCAT 2746, [87]

³⁹ EPA, Works Approval Assessment Report, Tribunal Book, Folder 1, EPA.010.152-R,

⁴⁰ Transcript, 1135, ln 21 to 1136, ln 18 and Statement of Dr Outhred, Tribunal Book, Folder 8, Volume 2, EVL.300.617-EVL.300.618

(b) Once the principle applies, the decision-maker must assume the harm will occur, unless the proponent demonstrates otherwise:

(i) In *Telstra*, Preston CJ stated:

If each of the two conditions precedent or thresholds are satisfied – that is, there is a threat of serious or irreversible environmental damage and there is the requisite degree of scientific uncertainty – the precautionary principle will be activated. At this point, there is a shifting of an evidentiary burden of proof. A decision-maker must assume that the threat of serious or irreversible environmental damage is no longer uncertain but is a reality. The burden of showing that this threat does not in fact exist or is negligible effectively reverts to the proponent of the economic or other development plan, programme or project.

The rationale for requiring this shift of the burden of proof is to ensure preventative anticipation; to act before scientific certainty of cause and effect is established. It may be too late, or too difficult and costly, to change a course of action once it is proven to be harmful. The preference is to prevent environmental damage, rather than remediate it. The benefit of the doubt is given to environmental protection when there is scientific uncertainty. To avoid environmental harm, it is better to err on the side of caution.⁴¹

(ii) This approach to the precautionary principle was applied by Osborn J in *Rozen v Macedon Ranges SC*⁴² and *Environment East Gippsland Inc. v VicForests*⁴³ and by the South Australian Environment Resources and Development Court in *Conservation Council of South Australia v DAC and Tuna Boat Owners Association of SA Inc. (No 2)*.⁴⁴

⁴¹ (2006) 67 NSWLR 256, [150] – [151]

⁴² (2010) 181 LGERA 370, [45]

⁴³ [2010] VSC 335, [199]

⁴⁴ [1999] SAERDC 86

- (c) It should be stressed that the assumption of serious or irreversible harm does not necessarily require that an application be refused. Rather, it is still necessary for the decision-maker to consider whether the benefits of the proposal outweigh the (assumed) harms.
- (d) In the present case, however, the assumed harm associated with the DGDP is significant and, as explained above,⁴⁵ the benefits alleged to accompany the proposal are variously:
 - (i) Causally independent of the proposal;
 - (ii) Speculative;
 - (iii) Achievable at lower environmental cost; and
 - (iv) In any event, not really tangible benefits.

Principle of Intergenerational Equity

- 27. The principle of intergenerational equity requires that 'the present generation should ensure that the health, diversity and productivity of the environment is maintained or enhanced for the benefit of future generations'.⁴⁶
- 28. The principle of intergenerational equity is relevant to the current proceedings in two ways:
 - (a) First, the principle requires that we treat costs imposed on future generations as of similar significance to costs experienced by the present generation. Accordingly, even if the worst impacts of climate change will not be felt until the future, it is still appropriate to accord them significant weight.
 - (b) Second, intergenerational equity has particular significance in the context of new power sources.⁴⁷ In *Taralga Landscape Guardians Inc v Minister for Planning*, a case concerning the development of a windfarm, Preston CJ stated:

⁴⁵ At paragraph 24

⁴⁶ *National Strategy for Environmentally Sustainable Development*, 3.5.2

⁴⁷ (2007) 161 LGERA 1, [73]

The attainment of intergenerational equity in the production of energy involves meeting at least two requirements. The first requirement is that the mining of and the subsequent use in the production of energy of finite, fossil fuel resources needs to be sustainable. Sustainability refers not only to the exploitation and use of the resource (including rational and prudent use and the elimination of waste) but also to the environment in which the exploitation and use takes place and which may be affected. The objective is not only to extend the life of the finite resources and the benefits yielded by exploitation and use of the resources to future generations, but also to maintain the environment, including the ecological processes on which life depends, for the benefit of future generations. The second requirement is, as far as is practicable, to increasingly substitute energy sources that result in less greenhouse gas emissions for energy sources that result in more greenhouse gas emissions, thereby reducing the cumulative and long-term effects caused by anthropogenic climate change. In this way, the present generation reduces the adverse consequences for future generations.⁴⁸

- (c) The DGDP is inconsistent with both requirements of the principle of intergenerational equity:
 - (i) It is inconsistent with the second principle in that it fails to substitute lower emission energy sources for higher emission sources.⁴⁹ Rather, it simply perpetuates the use of highly polluting brown coal whilst hoping to displace other electricity generators including those that use lower emission fuels like natural gas.⁵⁰
 - (ii) It is inconsistent with the first principle in that it fails to utilise Victoria's brown coal in a rational and prudent way which maximises its benefit:

⁴⁸ Ibid, [74]

⁴⁹ Transcript, 1342, ln 5-1343, ln 7; Statement in reply of Jeff Washusen, Tribunal Book, Folder 4, Volume 2, EPA.100.540 [36 and 37]

⁵⁰ Transcript, 1298, ln 18-26

- (1) The DGDP's emissions significantly exceed those of natural gas. Dual Gas says, notwithstanding that there is no CCS proved at this scale or in place, that the proposal will be an impetus for that investment. In other words, it asks the Tribunal to let Dual Gas build this facility in the hope that CCS will come on line, leaving the environmental consequences of CCS never coming on line to future generations, in an environment where emission of greenhouse gases to the atmosphere will be potentially more critical than they are today. It is also inconsistent with the first principle as the burning of coal does not ensure that environmental damage for future generations is avoided – rather, it risks it;
- (2) The preferable course would be to leave the coal in the ground, or use it for non-fuel purposes, until CCS is developed and brown coal may be responsibly used.⁵¹

29. Accordingly, the DGDP is inconsistent with the principles of environment protection and, by extension, SEPP (AQM) which requires their application. This is a sufficient basis for the refusal of the application.

INCONSISTENCY WITH THE BROADER GOVERNMENT POLICY FRAMEWORK

30. Generally speaking, the broader government policy framework is of little or no relevance to the making of decisions under the EP Act. There are three reasons for this:
 - (a) First, the Second Reading Speech for EP Act makes clear that the SEPPs are intended to be whole of government documents. In the Second Reading Speech, Mr Dickie described the SEPPs as 'form[ing] guidelines for all agencies in the prevention of pollution.'⁵² As such, it would be

⁵¹Statement of Dr Outhred, Tribunal Book, Folder 8, Volume 2, EVL.300.617-EVL.300.618

⁵²Victoria, *Parliamentary Debates*, Legislative Council, 8 December 1970, 3019 (V.O. Dickie, Minister for State Development)

inappropriate to read down the requirements of the SEPP by reference to general policy statements.

- (b) Second, much government policy in this area is extremely general and incapable of useful application at the level of making decisions about specific projects. As Mr Tsesmelis said, many of the statements in the policy documents to which the Tribunal has been referred are 'like news snippets or whatever',⁵³ rather than providing clear guidance in the making of administrative decisions.
 - (c) Finally, much of the policy that was presented very much has 'something for everyone'. Policy documents such as *Victoria's Energy Future* can fairly be characterised as indiscriminating in their enthusiasm.
31. SEPP (AQM) does, however, specifically require the implementation of measures for addressing the greenhouse effect:
- (a) One of the policy aims of SEPP (AQM) is to 'support Victorian and national measures to address the enhanced greenhouse effect'⁵⁴; and
 - (b) Clause 13(1) of the SEPP (AQM) requires that, in making decisions, the EPA, and the Tribunal on review, 'pursue' the aims of the SEPP.
32. In this context, there are two particular measures that have been announced by the Victorian government that the Tribunal must aim to support in making its decision:
- (a) The 20% emissions reduction target set by s 5 of the *Climate Change Act 2010* (Vic) (*CC Act*); and
 - (b) The 0.8 tCO₂e/MWh emissions target set to which both the State Labor and Liberal parties have committed.
33. In addition, s 37A of the EP Act requires the Tribunal to have regard to any relevant planning scheme.

⁵³ Transcript, 965, ln 22-23

⁵⁴ Cl 6(c) SEPP (AQM)

The Emissions Target

34. Section 5 of the CC Act commits the Victorian government to a 20% reduction of greenhouse emission levels relative to 2000 by 2020.
35. The CC Act permits the Minister to determine what Victoria's emissions were in 2000.⁵⁵ EV and LIVE are not aware that the Minister has done so. In the absence of a Ministerial determination, it is appropriate to have regard to the Victorian Greenhouse Gas Inventory for the year 2000, as prepared by the Australian Greenhouse Office.⁵⁶
36. The figure for the VGGI in 2000 is 120,668.60 kilotons.⁵⁷ 20% of 120,668.60 kilotons is approximately 24m tonnes. These figures are consistent with those given by Mr Blatchford in his evidence in chief.⁵⁸
37. The approval of the DGDP will hinder the achievement of the 20% reduction:
 - (a) The DGDP if approved will emit 3 – 3.2m tonnes of CO₂e per annum, amounting to approximately 13% of the 24m tonnes that s 5 seeks to reduce. As a result, the construction of the DGDP is *prima facie* inconsistent with the achievement of the Emissions Target.
 - (b) Dual Gas says that if DGDP technology replaced every major power plant in the LaTrobe Valley the 20% target would be met. This is, at best, speculation.
 - (c) The evidence led by Dual Gas does not establish that the DGDP is likely to displace existing brown coal power plants. In fact, the better view is that it is 'extremely unlikely' that the DGDP will do so. This is because the price of electricity is largely determined by a generator's long run marginal cost (*LRMC*). As Dr Washusen for the EPA said the LRMC of operating the DGDP was likely to be sufficiently high such that Dual Gas would be forced to sell electricity at a higher average price than a

⁵⁵ Section 5(2), *Climate Change Act 2010* (Vic)

⁵⁶ Department of Climate Change and Energy Efficiency, <http://ageis.climatechange.gov.au/SGGI.aspx>

⁵⁷ The VGGI figure produced by the AGO is given in gigagrams. One gigagram is equivalent to one kiloton.

⁵⁸ Transcript, 752, ln 24 – 30

conventional brown coal generator.⁵⁹ If this is correct, it is extremely unlikely that the DGDP could ever displace an existing brown coal generator.

- (d) It is equally arguable that the DGDP will operate simultaneously with existing Brown Coal generators for as long as the production of electricity using Brown Coal is economically viable. Rather than being the cause of a reduction in overall greenhouse gas emissions, the DGDP will simply augment those emissions. Any long term reduction caused by the voluntary closure of existing brown coal power plants has nothing to do with DGDP, and yet Dual Gas has advanced its case here as though it were entitled to some credit for these possible future events – which are either completely unrelated to the approval of its proposal and/or otherwise completely out of its control.
- (e) It is unclear at present what the major sources of GHG emission reduction will be in order to achieve the 20% reduction. It is inconsistent with the commitment to reduce GHG emission by 20% to approve the DGDP which will make a significant contribution to those emissions in circumstances where other alternative technologies exist which would produce lower GHG emissions.

The Intensity Target

- 38. The EPA has imposed a condition on the works approval for the DGDP requiring that it comply with a GEI requirement of 0.8tCO₂e/MWh⁶⁰.
- 39. Oddly in this case there is some uncertainty about how it is to be measured:
 - (a) As generated; or
 - (b) As sent out.

⁵⁹ Transcript, 1342, ln 5-1343, ln 7; Statement in reply of Jeff Washusen, Tribunal Book, Folder 4, Volume 2, EPA.100.540 [36 and 37] and EPA.100.554-555,[74]-[81]

⁶⁰ Tribunal Book, Folder 2, volume 2, EPAQ.020.288 (condition 2.1)

40. It is a pretty fundamental matter which may have considerable consequences for the economic viability of the project, and depending upon the way in which the GEI is measured, may contribute to a greater need to generate electricity using natural gas (using a sub optimal turbine) in order to comply.
41. Even more strange, is that the EPA doesn't know how to measure GEI.
42. Where does this uncertainty come from?
43. Certainly not from any of the published literature, or government guidelines which have been in place for more than a decade. GEI is a measure of the environmental cost against the benefit derived from the activity causing pollution. It stands to reason, and is consistent with all of the published material, that the proper basis of the comparison between environmental cost and the benefit derived from the activity is the usable product of that activity. In the context of electricity generation it is a measure of the power "as sent out". The energy used to run the plant is not an external benefit and shouldn't be counted.
44. All of the experts other than those appearing for Dual Gas agree that the proper way to measure GEI is "as sent out".
45. Dual Gas disagrees. It says that GEI should be measured on an "as generated basis". The submissions made by Dual Gas are extraordinary.
46. In opening the case Senior Counsel conveyed to the Tribunal that he had been advised on instructions that the Victorian government intended 'as generated' to be the means for calculating GEI. As the hearing progressed it became clear that the instructions given to Senior Counsel for Dual Gas were at best wrong, but on reflection highly misleading.
47. It has become clear that the explanations provided by Mr Blatchford in his report as to why the proper measure of GEI was on an "as generated basis" are entirely inconsistent with chronology of events. Dual Gas did not withdraw its original works approval application because the means of measuring GEI was changed by government, it did so because it was brought to its attention that its

proposal was not consistent with the White Paper released by the Victorian Government:

- (a) The Greenhouse Gas Assessment prepared by SKM as part of the original works approval application was dated 19 July 2010.⁶¹ That original assessment had measured GEI in the conventional way, on an “as sent out basis”.
- (b) On 23 July 2010, the Federal Government announced a policy entitled ‘Cleaner Future for Power Stations’ which proposed an emissions standard on new power stations.⁶² It was suggested by Mr Blatchford that this document was the basis of Dual Gas’ change to the application. Curiously, the standard proposed as the starting point for consultation was 0.86 tCO₂e/MWh⁶³. It does not specify one way or the other whether the measure is “as generated” or “as sent out”. Another release on the same day uses the word “produced” not “as generated”. This media release was not the reason for the withdrawal of the application, because in fact the application was not withdrawn!
- (c) On 26 July 2010, the Victorian Government released the Victorian Climate Change White Paper entitled ‘Taking Action for Victoria’s Future’ (*White Paper*).⁶⁴ The White Paper stated that, through the Climate Change Bill, a ‘target emission level’ of 0.8tCO₂e/MWh would be set for new power stations. The proposed target emission level had bipartisan support.⁶⁵ The White Paper did not specify whether the GEI was to be measured on an “as sent out” basis or an “as generated” basis.
- (d) On 4 August 2010, the EPA released for public comment an application for a works approval by Dual Gas for the DGDP (*the first works approval application*).

⁶¹ Exhibit O2

⁶² Exhibit D1

⁶³ Tribunal Book, Folder 3, Volume 2, EPA.050.494

⁶⁴ Tribunal Book, Folder 3, Volume 1, EPA.050.328

⁶⁵ Exhibit E5, page 15

- (e) In a media release made on the same day EV observed that the proposal which had been submitted did not comply the State Governments White Paper Target of 0.8tCO₂e/MWh.
- (f) On 5 August 2010 Mr Paul Welfare, General Manager of Dual Gas, wrote an email to an officer of the Department of Primary Industries asking if the 0.8 target was to be calculated on an 'as generated' or a 'sent out' basis. This email was only produced after its production was called to evidence the basis of the instructions advanced by Senior Counsel for Dual Gas. It proves that as at 5 August 2010:
 - (i) The Federal Government's announcement a week earlier had nothing to do with the decisions being made by Dual Gas at that time;
 - (ii) Dual Gas claimed to be unsure as to whether the proper measure of GEI was "as generated" or "as sent out" based upon a newspaper article in the Age and was seeking clarification from government as to the position;
 - (iii) The government officer responding said that the question was expected to be resolved as part of a Regulation Impact Statement process. In other words, in contradistinction to the submissions made by Senior Counsel on instruction, it provided no definitive answer on the government's position whatsoever;
- (g) Mr Blatchford conceded in cross-examination that neither he, nor to his knowledge, had anyone at Dual Gas, not seen any document from the Victorian Government indicating that the 0.8tCO₂e/MWh emissions limit proposed in the White Paper would be calculated on an 'as generated' basis;

- (h) It is apparent that the only basis for Dual Gas' submission that the government intended to measure the emissions limit on an 'as generated' basis was the article in *The Age* by Adam Morton⁶⁶.
 - (i) When that submission was made on its behalf (and maintained uncorrected for a number of days following) Dual Gas knew that it was false. Dual Gas knew that:
 - (i) It had not relied upon the article of Adam Morton – because it emailed the departmental officer for confirmation;
 - (ii) The Victorian government had never confirmed that the GEI should be measured on an as generated basis because it knew that after it enquired of the Victorian government it had received no such confirmation;
 - (j) Mr Blatchford gave his evidence to this Tribunal on the basis of what he had been told by people at Dual Gas, people who must have known that what he had put in that statement was false.
48. There has never been any Victorian government confirmation that GEI should be measured in any way other than "as sent out":
- (a) In December 2006, the Australian Greenhouse Office published the 'Technical Guidelines: Generator Efficiency Standards' (*Technical Guidelines*).⁶⁷ These contain recommended practices for, inter alia, determining, reporting on and comparing the GEI of power plants in Australia. The Technical Guidelines provide a formula for calculating GEI, which calculates GEI on an 'as sent out' basis.⁶⁸ GEI is measured and reported in accordance with these guidelines by all major emitters of greenhouse gases in Australia.⁶⁹

⁶⁶ Transcript, 840, ln 29 - 841, ln 12

⁶⁷ Exhibit O13

⁶⁸ Exhibit O13, pages 11 and 13; Transcript, 1080, ln 21-24;

⁶⁹ Technical Guidelines for greenhouse gas reporting are regularly updated, to assist companies and individuals calculate greenhouse gas emissions and comply with the provisions of the *National Greenhouse and Energy Reporting Act 2007*. At the commencement of the *National Greenhouse and Energy Reporting Act 2007*, the Department of Climate Change and Energy Efficiency adopted the 2006 'Technical Guidelines: Generator Efficiency Standards' to ensure that reporting remained consistent. As a consequence, although reporting of GEI

- (b) The scientists in this case (apart from Mr Blatchford) agree that that is how GEI is measured;
 - (c) Adam Morton has since declared that he had no indication from the Victorian government that the 0.8tCO₂e/MWh emissions limit was to be calculated on an 'as generated' basis.⁷⁰
49. It is a matter of plain logic that GEI should be measured on a 'sent out' basis. Measuring GEI on a 'sent out' basis is the industry standard means of measuring GEI and is to be preferred as a means of measuring GEI for two reasons:
- (a) Firstly, GEI measured on a 'sent out' basis calculates GEI by dividing total emissions by the electricity sent to the grid. 'As generated' on the other hand, calculates the emissions divided by the total electricity generated, including that used in the production of energy sent to the grid. As a result, using 'as generated' as a means of calculating GEI does not take proper account of all emissions created during the production of electricity.⁷¹ Measuring GEI on a 'sent out' basis is therefore a fairer way of comparing the efficiencies of all producers of electricity.⁷²
 - (b) The 'sent out' basis measures the total societal benefit (ie electricity received by the grid) against the total environmental cost (ie total emissions).⁷³
50. There are three points to make:
- (a) The 0.8tCO₂e/MWh is an important bi partisan limit.
 - (b) There is no basis upon which to assume that the government intended or will vary the method of calculating GEI to an "as generated basis".

is not required under the *National Greenhouse and Energy Reporting Act 2007*, calculating GEI in accordance with the 2006 Technical Guidelines (ie on a 'sent out' basis) is the method endorsed by the Department of Climate Change and Energy Efficiency. See Transcript at 880, ln 12 - 883, ln 2 and 1076, ln 29 - 1081, ln 24

⁷⁰ Exhibit O15

⁷¹ Transcript, 839, ln 31 – 840, ln 19

⁷² Transcript, 1079, ln 23 – 1080, ln 20

⁷³ As acknowledged by Mr Blatchford in cross examination, at Transcript, 839, ln 14-21

- (c) It isn't up to this Tribunal to set a new standard for calculation of GEI in the absence of any clear policy direction or analysis which underpins why the measurement of GEI should be changed.
- (d) As proposed, the DGDP is inconsistent with the bi partisan limit on GEI;
- (e) It is unacceptable that the EPA's approval does not specify whether GEI should be calculated on an "as sent out" or "as generated" basis; and
- (f) In the absence of any supporting material to suggest otherwise, and consistently with the weight of expert evidence in this case, if there is to be a license it should specify the emissions on an "as sent out" basis.

INCONSISTENCY WITH THE REQUIREMENT TO DEMONSTRATE BEST PRACTICE

51. Clause 33(1) of SEPP (AQM) requires generators of greenhouse gases to manage their emissions in accordance with clauses 18 and 19. Relevantly:
- (a) Clause 18(1)(a) provides that management of emissions means 'avoiding or minimising emissions in accordance with the preference established in the principle of the waste hierarchy';
 - (b) Clause 18(3) provides that a generator of emissions must 'manage their activities and emissions in accordance with the aims, principles and intent of the policy'; and
 - (c) Clause 19(1) provides that a generator of a new source of emissions must apply best practice to the management of those emissions.
52. 'Best practice' is defined in Part IV of SEPP (AQM) as:
- the best combination of eco-efficient techniques, methods, processes or technology used in an industry sector or activity that demonstrably minimises the environmental impact of a generator of emissions in that industry sector or activity.

53. There are two points to note initially about this definition:
- (a) First, it is holistic. It requires the best 'combination' of techniques, etc used in an industry sector. As such, the EPA's approach of focusing on individual components is inconsistent with the statutory definition of 'best practice' and should be rejected. Even if EPA's definition is adopted, the DGDP is not the best practice 'combination of techniques' because although it can be said to be best practice gasification, the evidence of Professor Outhred is that it is not best practice power generation.⁷⁴
 - (b) Second, best practice requires a focus on the 'environmental impact' of the emission generator, not other impacts. As such, in deciding whether the DGDP has demonstrated best practice, the Tribunal should not have regard to any potential social and economic impacts.

The relevant sector or activity

54. The appropriate sector for assessment of best practice is the electricity generation sector:
- (a) As 'best practice' is defined by reference to a particular sector or activity, it is necessary to identify the relevant sector.
 - (b) The relevant sector in this case is the electricity generation sector:
 - (i) Adoption of electricity generation as the relevant sector is consistent with:
 - (1) The environment protection objectives of the EP Act:
 - (a) The benefit society would receive from the operation of the DGDP is the electricity it produces;
 - (b) Focusing on the output of the process as determining the relevant scope is consistent with environment protection

⁷⁴ Outhred, transcript, 1135, ln 21 -1136

objectives of the EP Act, as it requires a decision-maker to consider whether the same benefit to the society – the output – could be achieved by some other means, with less impact on the environment;

- (c) By contrast, focussing on the input merely requires consideration of whether the resource being used is used as efficiently as possible. It says nothing about whether or not we could receive the same benefit at lower environmental cost.
- (2) The legal rules and practical realities of the National Electricity Market (*NEM*) in which the DGDP will operate:
- (a) All generators of electricity over 30MW are required to register with the Australian Energy Market Operator (*AEMO*) and connect to the NEM;⁷⁵
 - (b) Generators of electricity compete to sell electricity into the NEM;
 - (c) The NEM does not distinguish between power sources in determining bids;⁷⁶
 - (d) As such, electricity generated from all sources competes in the same market place under the same rules.⁷⁷
 - (e) EV and LIVE led evidence to this effect from Professor Outhred and that evidence was not contradicted by either the EPA or Dual Gas.
- (3) The practical realities of the DGDP also support a comparison with power sources other than brown coal and, in particular, with natural gas. As Dual Gas has made clear, the DGDP is a

⁷⁵ See extracts from the National Electricity Act and Rules, appended to Dr Outhred's Statement of Evidence at Tribunal Book, Folder 8, Volume 2, pages EVL.300.626-EVL.300.628

⁷⁶ Transcript, 1109, ln 29 – 1111, ln 12 and Tribunal Book, Folder 8, Volume 2, EVL.300.607 and EVL.300.627

⁷⁷ Ibid

dual fuel project and necessarily relies upon natural gas.⁷⁸ Indeed, the works approval application specifically contemplates that, if the gasification technology is unsuccessful, the plant may simply convert into a pure natural gas plant.⁷⁹ Further, in order for the DGDP to attain a GEI of 0.8t CO₂e/MWH (sent out), 32 % of energy input into the DGDP will need to be natural gas.⁸⁰

- (ii) Adoption of a narrower sector, such as brown coal power or a sector consisting only of the DGDP, undermines the operation of the SEPP:
 - (1) The definition of best practice in SEPP (AQM) implicitly contemplates a comparison between the proposal and other operators in the same sector. If the sector is defined too narrowly, it either reduces or completely excludes the possibility of comparison.
 - (2) Reducing or excluding the possibility of comparison impairs the operation of the SEPP by effectively imposing a lower bar on certain kinds of technology. For example, comparing the DGDP with only brown coal necessarily results in the DGDP being best practice, notwithstanding that it has demonstrably worse environmental impacts than natural gas.
 - (3) Such narrow definitions would effectively provide a perverse advantage to inferior technology which would have to meet lower standards precisely because it was only comparable to other inferior technology.

Failure to demonstrate best practice

55. It is not necessary to exhaustively define the electricity generation sector:

⁷⁸ Transcript, 693, ln 26- 694, ln 19; Transcript 724, ln 13-15; Tribunal Book, Folder 6, DGA.200.082 and DGA.200.110

⁷⁹ Transcript, 694, ln 5; Transcript 720, ln 24 – 721, ln 18; Tribunal Book, Folder 6, DGA.200.110

⁸⁰ Statement of Malcolm McIntosh, Tribunal Book, Folder 4, Volume 2, EPA.100.400 [58]

- (a) For relevant purposes, the electricity sector must extend to at least coal and natural gas. Both are mature and widely utilised technologies that provide reliable power.
 - (b) In another matter, one might wish to compare a proposed power station with renewable alternatives. In doing so, it would be necessary to take into account issues around intermittency and stability of power supply. In a particular case, such issues may be more significant than greenhouse gas emissions. As such, it is not the case that windfarms will invariably be the best option for the supply of electricity.
56. In this case, consideration of electricity production using natural gas is sufficient to demonstrate that the DGDP does not apply best practice in the management of its emissions:
- (a) A CCGT plant would have lower greenhouse gas emissions than the DGDP:
 - (i) Modern CCGT plants have a GEI of approximately 0.34 tCO₂e/MWh as generated, compared to the DGDP's 'best case' GEI of approximately 0.73tCO₂e/MWh as generated.⁸¹
 - (ii) To put these figures into some perspective, it is useful to look at the absolute reductions in greenhouse gas emissions produced by utilising CCGT in preference to DGDP:
 - (1) Assuming the DGDP generates its estimated maximum tonnage of emissions (3.2m tonnes) per annum, the DGDP would generate approximately 4.1m MWh of usable energy per annum. In comparison, a CCGT plant would produce approximately 9m MWh per annum, whilst producing the same amount of emissions.

⁸¹ These figures are drawn from Figure 9 in Mr Blatchford's witness statement (Tribunal book, Folder 6, Volume 1, DGA.200.095) and are arguably unduly favourable to Dual Gas as they are calculated on an 'as generated' basis. They are used here to show that, even taking the case for the DGDP at its highest, it is incapable of delivering better environmental outcomes.

- (2) Alternatively, a CCGT power plant could generate the same amount of usable energy (4.1m MWh) per annum whilst producing approximately 1.4m tonnes of CO₂e per annum.⁸²
- (3) In other words, working within the parameters of the DGDP proposal, a CCGT power plant generating an equivalent amount of energy could either:
 - (a) Produce the same amount of energy whilst producing approximately 1.8m fewer tonnes of CO₂e; or
 - (b) Produce the same amount of emissions whilst producing approximately 4.9m more MWh of energy.
- (b) A CCGT plant would have lower SO₂ and particulate emissions on average⁸³ than the DGDP. This was conceded by Mr Blatchford in cross-examination.⁸⁴
- (c) A CCGT plant would have lower NO_x emissions on average⁸⁵ than the DGDP. This is stated by SKM in the Triple Bottom Line Analysis (*TBLA*), which observes that

the NO_x emissions [from the DGDP] when using syngas are expected to be greater than natural gas-fuelled power stations, as the DGDP will have other air pollutant sources apart from the gas turbines. When fuelled by natural gas, the DGDP's NO_x emissions will be similar to other gas-fuelled power stations.⁸⁶
- (d) A CCGT plant has the potential to have lower water consumption than the DGDP:

⁸² Case 2 of the DGDP has a GEI of 0.78, whereas CCGT has a GEI of 0.34, roughly half that of the DGDP (see, for example, Statement of Alex Blatchford, Tribunal book, Folder 6, DGA.200.095, Figure 9). On this basis, the DGDP will emit roughly double the CO₂e for every unit of electricity generated than CCGT.

⁸³ The use of the phrase 'on average' is required here because when the DGDP is running purely on natural gas (i.e. as a CCGT), the levels of SO₂ and particulate emissions by the DGDP may be expected to be similar to that of other CCGT plants.

⁸⁴ Transcript, 819, ln 6 – 820, ln 4

⁸⁵ Again, the actual levels of NO_x emissions at any given time will vary depending on whether plant is operating purely on natural gas or on a combination of syngas and natural gas.

⁸⁶ Tribunal Book, Folder 2, Volume 2, EPA.020.156 [5.2.1]

- (i) The TBLA states that DGDP has a water consumption of 0.48 ML/GWh produced. This is better, although not significantly so, than the figure of 0.56 ML/GWh given for a 'Gas' plant.⁸⁷
- (ii) It is not clear how either of these figures were arrived at. The report cited for the water consumption figure for a gas plant, 'Water and the electricity generation industry: implications of use', gives a range of water consumption figures for natural gas plants, ranging from 0.08 GL/MWh for an dry-cooled 1GW CCGT power station to 0.88 GL/MWh for a 1GW CCGT power station with 'recirculating cooling'.⁸⁸ The proposed Shaw River power plant is dry-cooled, although the decision of the Planning Panel does not state a water consumption figure for that plant.⁸⁹
- (iii) The same report gives a water consumption figure of 1.2GL/MWh for a 1GW IDCC power plant.⁹⁰ As with many of the other assertions made by Dual Gas regarding the DGDP, the discrepancy between this NWC figure and the 0.48 GL/MWh figure contained in the TBLA is not explained.

DUAL GAS' EVIDENCE

57. Before turning to specific claims made by Dual Gas, it is necessary to say something about the evidence led by Dual Gas in general in this matter:

- (a) The evidence regarding the social and economic effects of the proposal has been highly unsatisfactory:

⁸⁷ Tribunal Book, Folder 2, Volume 2, EPA.020.167 [Table 5-3]

⁸⁸ National Water Commission, 'Water and the electricity generation industry: implications of use' (Waterlines Report Series No. 18, August 2009), 16, Table 4.

⁸⁹ *Shaw River Power Station EES* [2010] PPV 81, 2.2.2

⁹⁰ National Water Commission, 'Water and the electricity generation industry: implications of use' (Waterlines Report Series No. 18, August 2009), 17, Table 5.

- (i) One particular area of concern for the Tribunal should be Dual Gas' refusal to define the failure conditions leading to Case 4:
- (1) It is clear beyond doubt that Case 4 is not a best practice natural gas CCGT power plant, due to its use of Class E gas turbines.⁹¹ It would not be approved as a standalone CCGT plant in Victoria.
 - (2) It is obvious that the DGDP may fail technically (Dual Gas refused to provide evidence on what factors might lead to technical failure⁹²). It is also possible, however, that the DGDP will fail commercially. Neither Mr Blatchford⁹³ nor Mr Walton gave evidence of what would constitute commercial failure. It is reasonable to assume that it relates to money.
 - (3) In the absence of any definition of commercial failure, the Tribunal cannot make a prediction about the likelihood of commercial failure occurring. The Tribunal is, in effect, being asked to take a risk and approve a proposal that may, for purely financial reasons, be converted to non-best practice natural gas CCGT. This is not appropriate.
- (ii) In respect of the documentary evidence provided by Dual Gas:
- (1) The Triple Bottom Line Analysis (*TBLA*) provided by SKM was criticised by Dr Dey on a number of grounds, including for its failure to give adequate consideration to alternative options.⁹⁴
 - (2) SKM itself was not called to give evidence in support of its *TBLA* or the works approval application. The Tribunal should assume, in accordance, with the principles in *Jones v Dunkel*,

⁹¹ See, for example, WAAR at Tribunal Book, Folder 1, EPA.010.127 [6.3.8] and Statement of Malcolm McIntosh, Folder 4, Volume 2, EPA.100.393 [19]

⁹² Transcript, 787 ln 9-11

⁹³ Transcript, 814, ln 22 – 815, ln 11

⁹⁴ See, generally, Statement of Dr Christopher Dey at Folder 8, Volume 2, EVL.300.642 and the transcript of his evidence, commencing p 1148.

that nothing SKM could have said would have assisted Dual Gas.

(iii) The evidence from the witnesses called from Dual Gas was also unsatisfactory:

(1) Mr Blatchford's evidence was unsatisfactory because, although he gave evidence as an expert witness, he also gave evidence on a number of matters that he conceded were outside his expertise, including various modelling and commercial matters.⁹⁵ Where he relied upon others, he did not – contrary to Practice Note 2 of VCAT – identify the persons and material upon which he had relied.⁹⁶ Worse still, where he had relied upon what he had been told by others, it was clear that on occasion he had been misled.

(2) Mr Walton was a particularly unsatisfactory witness:

(a) It was repeatedly stated, by Dual Gas and Mr Walton himself, that Mr Walton was not giving expert evidence.⁹⁷ Despite this, much of the evidence he gave was in the nature of opinion and, if the rules of evidence applied in the Tribunal, would be formally inadmissible.

(b) Moreover, to the extent Mr Walton gave opinion evidence, his witness statement did not comply with the requirements of Practice Note 2 of VCAT for expert witnesses. In particular, Mr Walton:

(i) Did not give evidence that he had undertaken all inquiries desirable and appropriate, meaning that it cannot be said that his opinions are necessarily fully informed;

⁹⁵ Transcript, 777, ln 6 – 779, ln 9. See in particular, 777, ln 30 where Mr Blatchford stated, in relation to some of the information contained in his witness statement “... I would not personally myself do the modelling. I would need to ask of those experts to provide certain information.”

⁹⁶ Mr Blatchford admitted this in cross examination at Transcript, 813, ln 3-23

⁹⁷ Transcript, 1208, ln 10 – 12; 1391, ln 18 – 22; 1392, ln 28 – 1393, ln 4

- (ii) Did not owe the Tribunal an overriding duty and therefore the Tribunal cannot be sure that his evidence reflects a fair and balanced assessment of the matters about which he expressed an opinion. Indeed, Mr Walton cheerfully admitted to being ‘very selective’ in his evidence.⁹⁸

58. It is now necessary to turn to the various matters put by Dual Gas in support of its claim.

Carbon capture and sequestration

59. Dual Gas and the EPA have both sought to emphasise the potential for the DGDP to take advantage of carbon capture and sequestration (CCS). Little weight should be given to this possibility as it is:

- (a) Highly uncertain; and
- (b) Not linked to the DGDP proposal in any way.

60. First, there are significant barriers to the DGDP utilising CCS technology:

- (a) The required carbon transport and storage does not presently exist:
 - (i) It may be accepted that the DGDP could be retrofitted with carbon capture technology so as to be ready to use CCS if available.
 - (ii) As Mr Blatchford stated, however, the existence of a pipeline and a storage site are conditions precedent to the use of CCS.⁹⁹ Neither exist at this time.
 - (iii) In the absence of the required infrastructure, there is no practical difference between a CCS-ready power station and a non-CCS-ready power station. As Mr Tsesmelis stated,

⁹⁸ Transcript, 1403, ln 15 - 17

⁹⁹ Transcript, 886, ln 29 – 887, ln 1

if you're designed and you're carbon capture ready today and you don't have a commercial pipeline and compression and et cetera - and sequestration site, the CO² is simply vented to the atmosphere.¹⁰⁰

- (iv) Indeed, as Dual Gas' German competitor, RWE, has stated in a press release,

Without the pipeline and storage facility on the other hand, the construction of a power plant designed for CCS is neither viable nor sensible from the perspective of climate protection.¹⁰¹

- (b) Nor is there any certainty that the required infrastructure will ever exist:
- (i) There are no power stations in the world currently operating that have implemented and are using carbon capture and storage to contain their CO₂ emissions.¹⁰² There is much speculation as to when and if it will become commercially and technically feasible for power stations to capture and store CO₂ emissions.¹⁰³
- (ii) The Victorian State CCS project is called CarbonNet. As the Department of Primary Industries states on its website, the CarbonNet program is 'still in the early stages'.¹⁰⁴
- (iii) A necessary condition of CarbonNet is the existence of appropriate geological storage structures in Victoria. It has not yet been established that these structures exist. As the DPI website states,

The CarbonNet Project is still in the feasibility stage of assessing whether the Gippsland Basin has the appropriate geological

¹⁰⁰ Transcript, 957, ln 16 – 19

¹⁰¹ Exhibit O1, quoted at Transcript 630, ln 18 – 21

¹⁰² International Energy Agency Clean Energy Progress Report, April 2011, quoted in the Statement of Dr Outhred, at Tribunal Book, Folder 8, Volume 2, EVL.300.614 and EVL.300.616; Transcript 1457, ln 24-29;

¹⁰³ Transcript, 1458, ln 25 – 1459, ln 5 and 1042, ln 22 – 1043, ln 18

¹⁰⁴ Department of Primary Industries, <http://www.dpi.vic.gov.au/energy/sustainable-energy/carbon-capture-and-storage>. See also the timeline in the presentation given by Dr Richard Aldous, the Deputy Secretary, Energy and Earth Resources, Department of Primary Industries to the All Energy Conference on 6 July 2010, Exhibit O8

structure for underground storage of carbon dioxide. A lot more work remains to be done.¹⁰⁵

- (iv) Even if the appropriate geological structures do exist, there are still questions about the viability of the CarbonNet project. It is not clear, for example, whether it will have the required funding. The CarbonNet project is one of several projects bidding for Commonwealth government support under the CCS Flagships program. As Mr Blatchford conceded, there is still uncertainty over which projects will actually be funded under that program.¹⁰⁶ Whilst some funding was awarded to the Western Australian Collie South West Hub project in June 2011, the position of CarbonNet is unclear. A press release from the Department of Resources, Energy and Tourism announcing the funding for the WA project states simply that the federal government 'will continue to progress' the CarbonNet program.¹⁰⁷
 - (v) As such, it is not clear that carbon capture and storage of CO₂ emissions from power stations generally, or CarbonNet is physically possible or that, if CarbonNet is physically possible, the required funding is available.
- (c) Even if the required infrastructure did exist, there is no certainty that the DGDP would utilise it:
- (i) In its evidence before the Tribunal, Dual Gas has repeatedly emphasised that its commitment to CCS is contingent on the technology being 'commercially viable'.¹⁰⁸

¹⁰⁵ Department of Primary Industries, <http://www.dpi.vic.gov.au/energy/sustainable-energy/carbon-capture-and-storage/airborne-gravity-survey>

¹⁰⁶ Transcript, 886, ln 14 – 15

¹⁰⁷ Department of Resources, Energy and Tourism, 'Carbon Capture and Storage Flagships Program' (Press release, 11 June 2011)

¹⁰⁸ See, e.g., the evidence of Mr Blatchford, Transcript, 808, ln 27 – 809, ln 12; 886, ln 29 – 887, ln 1. See also Mr Blatchford's written statement at 3.10.2 ('The DGDPS has been designed to enable the potential retrofit of CO₂ capture technology when commercially viable.') and 3.12 ('The future retro-fitting of carbon capture technology to DGDPS (if commercially viable), is expected to enable the facility to achieve an expected greenhouse gas intensity of approximately 0.26 t CO₂-e / MWh. '; 'The use of carbon capture is dependent upon the availability of the carbon storage site, a pipeline and its commercial viability.')

- (ii) No evidence has been led to show:
 - (1) What the expected costs of CCS under CarbonNet would be;
 - (2) What Dual Gas considers commercially viable.
 - (iii) Accordingly, even if the required infrastructure existed, it has not been shown that DGDP would necessarily use it.
 - (d) For the above reasons, the Tribunal should accord the possibility of CCS in Victoria very little weight. There are simply too many unknowns associated with the CCS generally, and in particular, the CarbonNet project, not the least of which is whether Victoria even has appropriate geology for the underground storage of carbon.
61. Second, there is no link between approval of the DGDP and the development of CCS in Victoria:
- (a) The principal, if not exclusive, CCS project in Victoria is CarbonNet. CarbonNet, as Senior Counsel for Dual Gas conceded, is a Victorian government project and is independent of the DGDP proposal.¹⁰⁹ As such, the refusal of the DGDP would have no direct impact on whether CarbonNet goes ahead.
 - (b) Equally, however, the approval of the DGDP would do nothing to enhance the prospects of CCS in Victoria. At most, it would mean that if the required infrastructure was built, then the DGDP might be able to take advantage of it. The carbon capture technology intended to be used by the DGDP is, however, well proven and, hence, the DGDP is unlikely to make a contribution to the further development of such technology.¹¹⁰
62. Further, the absence of CCS infrastructure supports refusal to grant a works approval at this time:
- (a) It may be conceded that, if the required infrastructure were built and utilised, the DGDP could be expected to have a GEI of approximately 0.26

¹⁰⁹ Transcript, 510, ln 27 - 28

¹¹⁰ Transcript, 742, ln 7 - 10

tCO₂e/MWh as generated, comparable to that of a non-CCS CCGT power plant.¹¹¹

- (b) For the reasons explained above, however, it is far from clear that the required infrastructure will be built and utilised by the DGDP.
- (c) It would be appropriate to refuse to grant approval until the prospects of CCS in Victoria can be more clearly established.
- (d) Refusal of the project until the technical viability of CCS in Victoria is established would also have the advantage of permitting a comprehensive approach to the development and deployment of CCS in Victoria, as outlined by Dr Outhred in his evidence.¹¹² This approach is also supported by the principle of intergenerational equity, as it facilitates the 'wise use' of Victoria's coal resources.¹¹³

The Contract for Closure program

- 63. Through its witnesses and cross-examination, Dual Gas has sought to rely on the Contract for Closure (*CFC*) program as ameliorating the adverse impacts associated with the proposal. For example, Mr Chessell put to Dr Karoly, and Dr Karoly agreed, that the net effect of the closure of Hazelwood and the approval of the DGDP would be a reduction in overall emissions in Victoria.¹¹⁴
- 64. The CFC program is a program under which operators of high emission power stations can tender to close parts of those power stations in return for money from the Federal government. The CFC program will close up to 2000MW of power generating capacity.¹¹⁵
- 65. There are two problems with Dual Gas attempting to rely on the existence of the CFC in support of its application:

¹¹¹ Statement of Alex Blatchford, Tribunal Book, Folder 6, Volume 1, DGA.200.095 [Figure 9]

¹¹² Transcript, 1113, ln 7 – 1116, ln 17

¹¹³ See above at [28]

¹¹⁴ Transcript, 1197, ln 30 – 1198, ln 9

¹¹⁵ The CFC package is part of the Federal Government's 'Clean Energy Future' policy. See the document 'Clean Energy Package', in Exhibit O7

- (a) The success of the CFC program is uncertain. It may or may not result in the closure of the 2000MW sought by the Federal government;
- (b) The CFC program is entirely independent of the DGDP. To the extent the approval or refusal of the DGDP will make any difference, it will actually impair the effectiveness of the CFC by reducing the overall level of reductions achieved, compared to a situation where the closed generating capacity is replaced by natural gas or renewables.

66. First, as with CCS, there is uncertainty about whether the CFC program will occur or will occur to the full extent planned:

- (i) As the Expression of Interest document prepared by the Commonwealth for the CFC makes clear, the outcome of the process will depend on negotiations between the Commonwealth and interested parties. The EOI document states:

At the end of the CFC Negotiation Stage, and depending on the outcome of negotiations, the Commonwealth *may* decide to enter into Contracts for Closure with Respondents. *If* successfully negotiated, the Commonwealth intends to enter into any Contracts for Closure by 30 June 2012. (emphasis added)¹¹⁶

- (ii) This is consistent with the evidence given by Dr Washusen under cross-examination.¹¹⁷ As such, it is unclear to what extent the CFC will ultimately result in a reduction of emissions. It would be inappropriate to make a decision on the basis of an outcome of the CFC program that may not occur.

67. Second, the overall impact of approving the DGDP will be to undermine the outcome of the CFC:

¹¹⁶ Department for Resources, Energy and Tourism, 'Contract for Closure Program: Invitation for Expressions of Interest' (30 September 2011), 7

¹¹⁷ Transcript, 1443, ln 27 – 31

- (a) There is no causal relationship between closure under the CFC – and any reduction in emissions achieved from those closures – and the DGDP:
- (i) The CFC program is run by the federal Department of Resources, Energy and Tourism. As with the CarbonNet process, it has no connection to the approval or refusal of DGDP at all.
 - (ii) Indeed, any reduction achieved by the CFC program will itself be reduced by the operation of DGDP, a point made by Dr Karoly in cross-examination.¹¹⁸
- (b) More importantly, to the extent that the CFC program offers an opportunity to place the Victorian energy industry on a new, lower emissions footing, approval of the DGDP may result in the squandering of that opportunity:
- (i) In his evidence to the Tribunal, Dr Outhred spoke of the ‘first mover advantage’, where investment in particular power stations at particular times may deter investment in other kinds of power stations.¹¹⁹
 - (ii) The reduction in generating capacity occasioned by the CFC program can be expected to have a significant effect on the National Electricity Market and to create opportunities for new entrants, a point acknowledged by Mr Walton¹²⁰ and Dr Washusen.¹²¹
 - (iii) The question then becomes how best to capitalise on those opportunities. In terms of reducing overall emission levels, it is clear that the preferable course would be to construct the lowest emission power sources possible, taking into account issues such as power system reliability.
 - (iv) Approval of the DGDP in the run up to the closures associated with the CFC program has the potential to encourage further investment

¹¹⁸ Transcript, 1198, ln 10 – 15

¹¹⁹ Transcript, 1098, ln 28 – 1099, ln 26

¹²⁰ Transcript, 1296, ln 12-26

¹²¹ Transcript, 1343, ln 20 – 26

in 'second best' technologies such as IDGCC in preference to lower emission technologies, such as natural gas and renewables. As such, approval of the DGDP has the potential to result in a waste of the opportunity provided by the CFC program.

68. The net effect of the above is that it is inappropriate to give the DGDP any credit for emission reductions that may be associated with the CFC program. The DGDP will do nothing to cause those reductions, is liable to result in a decrease in the level of emissions reductions overall and potentially will undermine the results of the CFC program by encouraging investment in demonstrably second best technology.

Social benefits

69. There is no evidence that the DGDP would offer any greater social benefits than an equivalently sized CCGT power plant:
- (a) In terms of maintaining the LaTrobe Valley's regional identity:
 - (i) The TBLA states that the 'DGDP will ... contribute toward the community's sense of future by contributing to the future viability of the power industry in Latrobe City.'¹²²
 - (ii) Under the heading, 'Comparison with other generation technologies', however, the TBLA goes on to observe that both 'coal and gas fired power stations' in the LaTrobe Valley represent 'a continuation of the existing social framework given the historical importance of power generation for the region.'¹²³
 - (iii) In this context, it is relevant to note that TRUenergy is in the process of seeking approval for a 1GW CCGT power plant on the site of the existing Yallourn coal power plant. In the *EES Stakeholder and Community Engagement Plan* prepared for the projects, TRUenergy

¹²² Tribunal Book, Folder 2, Volume 1, EPA.020.183 [6.3.1]

¹²³ Tribunal Book, Folder 2, Volume 1, EPA.020.183 [6.3.1]

states that the proposal 'forms part of their commitment to the community in the Latrobe Valley and their continued tradition of power generation.'¹²⁴

- (iv) Accordingly, a refusal to grant the works approval in this case would not, in and of itself, endanger the LaTrobe Valley's sense of identity or future.

- (b) In terms of broader societal acceptance among Victorians:
 - (i) The consultation undertaken by SKM on broader acceptance is plainly inadequate. The list of bodies consulted is almost exclusively populated by government agencies, a number of which may be expected to be *de facto* supportive of any proposal of this kind (e.g. Clean Coal Victoria, the Federal Department of Resources, Energy and Tourism, the State Department of Primary Industry). The only non-government bodies consulted were the Australian Industry Group and the Victorian Trades and Labour Council.¹²⁵

 - (ii) No consultation appears to have been undertaken of Victorian residents living outside the LaTrobe Valley.¹²⁶ In particular, no consultation appears to have been undertaken of Victorians resident in areas likely to be most affected by climate change, e.g. Lakes Entrance in East Gippsland Shire or Narrawong in Glenelg Shire.

 - (iii) The only objective attempt to gauge community support for different generation options referred to in the TBLA is a study undertaken by the Commonwealth Scientific and Industrial Research Organisation, *Perceptions of Low Emission Energy Technologies: Results from a Perth Large Group Workshop*. Whilst recognising the risks of generalising from a study in one region to another,¹²⁷ it is significant that

¹²⁴ Socom Pty Ltd, 'Yallourn CCGT Power Station: EES Stakeholder and Community Engagement Plan', September 2010, 2, http://www.dpcd.vic.gov.au/_data/assets/pdf_file/0004/54382/Yallourn-TRUenergy-EES-Communications-Plan.pdf

¹²⁵ Tribunal Book, Folder 2, Volume 1, EPA.020.186 [6.4.1]

¹²⁶ Tribunal Book, Folder 2, Volume 1, EPA.020.186 [6.4.1]

¹²⁷ TBLA 6.4.1 and 6.4.2, noting that support for technologies is influenced by a wide array of demographic factors.

continued use of coal was supported by only 27% of participants and opposed by 60% of participants.¹²⁸ By contrast, natural gas attracted majority support (53%), although renewables attracted greater support (64 - 95% depending on the energy source).¹²⁹

- (iv) The CSIRO study also rated community support for development funding for particular power sources, asking participants to rank power sources in order of preference from one to ten. The study found that coal ranked second lowest, with 63% of participants placing it in their bottom three.¹³⁰
 - (v) As such, the TBLA provides no basis for believing that the continued development of brown coal commands majority support within the Victorian populace, notwithstanding any government support.
- (c) In terms of direct job creation, the TBLA concludes that the DGDP will produce 0.07 operating jobs per MW of generating capacity.¹³¹ This would be approximately 21 jobs in the case of the 300 MW power plant or 42 jobs in the case of the 600 MW power plant.¹³² The TBLA notes, however, that the DGDP 'will generate a similar number of jobs per MW installed than [sic] renewable energy and natural gas based technologies.'¹³³ It goes on to say that each MW of wind energy creates 0.07 jobs. Accordingly, the DGDP provides no net social benefit in terms of direct employment over alternative generation options.
- (d) The position would appear to be similar in relation to indirect employment. The TBLA notes that no detailed comparison with other generation options has been undertaken, but that 'indirect employment generation will be approximately proportional to the number of staff

¹²⁸ CSIRO, *Perceptions of Low Emission Energy Technologies: Results from a Perth Large Group Workshop* (2009), 6.4.3, cited at TBLA 6.4.2

¹²⁹ CSIRO, *Perceptions of Low Emission Energy Technologies: Results from a Perth Large Group Workshop* (2009), 6.4.1, 6.4.2 and 6.4.7, cited at TBLA 6.4.2

¹³⁰ CSIRO, *ibid*, 6.5.3

¹³¹ Tribunal Book, Folder 2, Volume 1, EPA.020.195 [6.6.1]

¹³² These figures are based on division of the nameplate capacity by the 0.07 figure. The actual figure given for the 600 MW facility in the TBLA is 40 jobs: TBLA, 7.1.

¹³³ Tribunal Book, Folder 2, Volume 1, EPA.020.195 [6.6.1]

directly employed within the power plant.’¹³⁴ If this is correct then, given that both the DGDP and CCGT are expected to produce the same amount of direct employment, it is reasonable to infer that they would produce the same level of indirect employment.

Economic benefits

70. It is unlikely that the DGDP will offer any economic benefits that could not be supplied by a CCGT plant:
- (a) Dual Gas asserts that the development of the DGDP will enable it to supply energy at a lower cost than an equivalent CCGT plant. It is not clear that:
 - (i) This assertion is correct; or
 - (ii) The supply of lower priced energy from brown coal is a benefit.
71. The evidence suggests that DGDP will not produce energy at a lower price than a CCGT:
- (a) The central issue is whether the price at which a generator bids electricity into the market is principally determined by:
 - (i) The short run marginal cost (*SRMC*), described by Mr Walton as a figure derived from the cost of operations and maintenance, the cost of fuel, the efficiency of the plant and the impact of any carbon price;¹³⁵ or
 - (ii) The long run marginal cost (*LRMC*, also known as the levelised cost of electricity) of running the generator, defined in the Electricity Statement of Opportunities 2011 prepared by the Australian Energy Market Operator (*AEMO*) as:

[T]he revenue (in \$/MWh) required to cover financing costs and the fixed and variable operating and

¹³⁴ Tribunal Book, Folder 2, Volume 1, EPA.020.199 [7.1.1]

¹³⁵ Transcript, 1224, ln 9 – 15

maintenance costs of the investment over the asset's lifetime.¹³⁶

- (b) The better view is that the LRMC is the principal determinant of the average electricity price over the lifespan of the plant and, hence, the ultimate unit price of electricity generated by the plant. As Dr Washusen explained:

If you make an investment in any asset, whether it's a power station or a house or whatever, you would expect over the life of your ownership of that to recover the full economic value. And it's not just recovering the variable costs or the short-run marginal cost. It means that you would expect to recover all of the capital invested in it. And if you have a bank that's lent you money to enable you to make that investment, then you can be reasonably confident that the bank would want to get their money back as well. So that the concept of economic viability basically is not immediately but over a sufficient length of time, you could – you would expect to recover enough revenue to meet all of your costs including the full repayment of all capital to equity participants, to shareholders, and all payment of all debt to financial houses, as well as all of your operating costs. If you don't achieve that goal, then you haven't achieved economic viability.¹³⁷

- (c) As such, although recovery of SRMC is a necessary condition of obtaining economic viability, it is not a sufficient condition of doing so. A generator that is only recovering its SRMC is effectively 'treading water'. As Dr Washusen stated, banks and investors will be seeking adequate returns.¹³⁸ This was conceded by Mr Walton, who agreed that lenders and investors would 'not be interested' in the DGDP if all it did was cover its SRMC.¹³⁹

¹³⁶ AEMO, *Electricity Statement of Opportunities* (August 2011), 8 – 14, cited in Dr Washusen's expert report at EPA.100.316, [49]

¹³⁷ Transcript, 1305, ln 4 - 22

¹³⁸ Ibid.

¹³⁹ Transcript, 1378, ln 4 - 7

- (d) As the evidence shows, the principal role of the SRMC is to set a floor which a generator will not want to bid below consistently. This does not mean, however, that generators would never bid below their SRMC:
- (i) Dr Washusen admitted that it would be ‘commercially stupid’ to run a power plant in a way ‘where the revenue from the spot market was always, or even significantly - was less than the [SRMC]’.¹⁴⁰ However, the SRMC is ‘important, but not critical’.¹⁴¹ This echoed the evidence of Professor Outhred that SRMC was ‘strongly influential’, but ‘not the only issue a generator might consider’ in setting bid prices.¹⁴²
 - (ii) The decision of French J in *Australian Gas Light Company v ACCC (No. 3)* supports these observations. In that case, his Honour referred to evidence on behalf of AGL identifying some 18 matters that the operators of Loy Yang took into account ‘in determining [their] short term and long term bidding strategies.’¹⁴³ Neither SRMC nor LRMC were expressly referred to, but it is clear that the matters taken into account include those not directly relevant to SRMC, such as weather forecasts.¹⁴⁴
 - (iii) Dr Washusen went on to identify strategic reasons why a generator might bid into the market at less than their SRMC:
 - (1) The main justification was in order to ensure that power from the generator would be dispatched:
 - (a) Dispatch is a prerequisite to earning revenue. Regardless of a generator’s SRMC, unless a generator gets a dispatch order for its power from the Australian Energy Market Operator (*AEMO*), it will not earn revenue.¹⁴⁵

¹⁴⁰ Transcript, 1328, ln 17

¹⁴¹ Transcript, 1333, ln 8-11

¹⁴² Transcript, 1120, ln 28 – 1121, ln 12

¹⁴³ (2003) 137 FCR 317, [122](a) – (m)

¹⁴⁴ *Ibid*, [122](d)

¹⁴⁵ Transcript, 1309, ln 21 – 23

- (b) Power will only be dispatched if it is bid into the market at a price below the highest price paid for power required to satisfy demand in a particular interval.
- (c) The market admits bids of as little as -\$1,000 per interval. The price paid for power dispatched during that interval is the highest bid put in by a generator whose power is dispatched in that interval.¹⁴⁶
- (d) There is only a very limited amount of time during which the bid price for electricity is below zero.¹⁴⁷
- (e) Accordingly, bidding in at sub-SRMC prices ensures that a generator's power has the possibility of being dispatched without necessarily preventing the generator from recovering prices in excess of their SRMC for a given period.
- (f) Dr Washusen provided evidence to support this view in form of Exhibit E-4, which highlighted that a significant proportion of Victorian power – in excess of 3GW – was bid into the market at sub-zero prices.¹⁴⁸
- (g) In addition, as Mr Walton explained, generators could bid parts of their capacity at different prices within the same interval.¹⁴⁹ So, for example, a 300 MW generator could bid 100MW each at three different prices, including 100MW at a sub-zero price and potentially earn income on all or some of those bids at the price of the highest bid accepted.

¹⁴⁶ For example, if 10 MW of power is required and 7.5 MW is bid at -\$1,000, 2.5 MW at \$1,000 and a further 2.5 MW at \$1,500, then both the 7.5 MW and first 2.5 MW will be dispatched in preference to the remaining 2.5 MW. Each generator of dispatched power will, however, receive \$1,000 for the power dispatched, despite the low bid.

¹⁴⁷ Transcript, 1309, ln 23 - 28

¹⁴⁸ Australian Energy Regulator, *Market Analysis: 23 December – 29 December 2007*, 18; see also Transcript, 1331, ln 15 – 1333, ln 11

¹⁴⁹ Transcript, 1277, ln 20 – 1278, ln 18

- (2) A second justification is that, depending on plant flexibility, the costs of shutting the plant down may exceed the cost of running the plant at a loss for a relatively short period:
- (a) Inflexible generators, such as traditional coal fired power plants, have long start up and shut down times – in the region of several hours.¹⁵⁰
 - (b) As Dr Washusen said, the cost of starting up and shutting down an inflexible plant may exceed the costs of running through the relatively rare periods when electricity prices fall below zero.¹⁵¹
 - (c) No evidence was led as to the start up and shut down times of the IDGCC. The paper referred to by Dr Washusen in his evidence, *Lower Cost Gasification Power Cycles for Australian Coals and Conditions*, estimates that IDGCC plants will have a start up time of between 8 – 24 hours.¹⁵²
 - (iv) Mr Walton agreed with much of what Dr Washusen said in this regard. In response to a question from Mr Morris, he stated that bidding into the market at below SRMC was ‘common’, although he stated that a generator would ‘make a deliberate decision’ to do so.¹⁵³
 - (e) Given that the LRMC is the principal determinant of electricity prices, it is likely that the DGDP will not produce power at a lower cost than a CCGT plant:

¹⁵⁰ See, for example, transcript, 1309, ln 6-9

¹⁵¹ Transcript, 1308, ln 31 – 1309, ln 28

¹⁵² Louis Wibberley, Doug Palfreyman, and Peter Scaife ‘Lower Cost Gasification Power Cycles for Australian Coals and Conditions – Technology Assessment Report 76’, CSIRO Energy Technology, March 2008, p 62, http://www.google.com.au/url?sa=t&rct=j&q=%27lower%20cost%20gasification%20power%20cycles&source=web&cd=1&ved=0CDgQFjAA&url=http%3A%2F%2Fwww.ccsd.biz%2Fpublications%2Ffiles%2FTA%2FTA%252076%2520Lower%2520cost%2520gasification_web%2520final.pdf&ei=kRAmT7iuFpC3rAf749DLAg&usg=AFQjCNE9uLbS8qLupHaWcYatMudDzdYxIA&sig2=wVEy0IAbVVbeAH2rXe8XTw&cad=rja

Referred to in Statement of Dr Washusen, Tribunal Book, Folder 4, Volume 1, EPA.100.318.

¹⁵³ Transcript, 1277, ln 15 – 16

- (i) Dr Washusen concluded that, notwithstanding the lower fuel cost of the DGDP,

there are only a very limited set of plausible assumptions, being zero carbon price and extremely high gas prices where the IDGCC power station would in fact be more competitive in terms of levelised cost of electricity compared to a natural gas combined cycle plant.¹⁵⁴

- (ii) Asked whether he would recommend the DGDP as an investment opportunity, Dr Washusen reiterated this position:

Based on the information that I have available to me my conclusion was that the IDGC Dual Gas proposal would have a higher long-run marginal cost under any reasonable and plausible set of assumptions than with natural gas combined cycle; on that basis I wouldn't recommend it to anybody.¹⁵⁵

- (iii) Dual Gas contested these conclusions on the basis that the actual capital costs of the DGDP would be significantly below those estimated by Dr Washusen. This argument should be rejected:

- (1) It is 'trite' to say that 'all evidence is to be weighed according to the proof which it was in the power of one side to have produced, and in the power of the other to have contradicted.'¹⁵⁶
- (2) The actual capital costs of the DGDP project are clearly within the knowledge of Dual Gas and outside the knowledge of any other party to the proceedings.¹⁵⁷

¹⁵⁴ Transcript, 1328, ln 11 – 16

¹⁵⁵ Transcript, 1449, ln 29 – 1450, ln 3

¹⁵⁶ *Legal Services Board v Werden* [2011] VSC 74, [79]. His Honour was referring to the rule in *Blatch v Archer* (1774) 98 ER 969, 970. *Blatch* has been approved by the High Court on a number of occasions: see, e.g., *Swain v Waverley Municipal Council* (2005) 220 CLR 517, [17] per Gleeson CJ; *DP v Commonwealth Central Authority* (2001) 180 ALR 402, [187]; *Vetter v Lake Macquarie CC* (2001) 174 ALR

¹⁵⁷ As acknowledged by David Walton in cross examination, transcript, 1380, ln 25 – 1382, ln 19

- (3) Dr Washusen based on his estimate of the capital costs on a number of publically available reports by various reputable bodies. These reports uniformly predicted capital costs significantly in excess of those relied upon by Dual Gas. The reasoning behind that estimate is clearly and transparently set out in part 4 of his expert report.¹⁵⁸
- (4) It was open to Dual Gas to lead evidence of the capital costs associated with the project to contradict this evidence. Dual Gas had the benefit of confidentiality undertakings from the parties, their legal teams and their witnesses and, if necessary, it could have sought the closure of the court for the relevant part of the evidence.
- (5) Instead, Mr Walton elected to give unsubstantiated oral evidence that the capital costs of the DGDP were significantly below those estimated by Dr Washusen.
- (6) As Dr Washusen said when Mr Walton's evidence was put to him, 'It would be very nice if I could see the information to confirm it myself.'¹⁵⁹ The Tribunal should not give any weight to Mr Walton's evidence regarding the capital costs. Dual Gas must be taken to have elected not to lead any meaningful evidence on this subject and the evidence of Dr Washusen should be preferred.

72. Moreover, even if the DGDP did produce electricity at a lower price than a CCGT plant, it is not clear that lower cost electricity is necessarily a benefit:

- (a) Clause 7(5) of the SEPP (AQM) deals with 'Improved Valuation, Pricing and Incentive Mechanisms'. Clause 7(5)(c) provides that it is a policy principle of the SEPP that:

¹⁵⁸ Commencing at Tribunal Book, Folder 4, Volume 1, EPA.100.348

¹⁵⁹ Transcript, 1430, ln 29 – 31

Users of goods and services should pay prices based on the full life cycle costs of providing goods and services, including costs relating to the use of natural resources and the ultimate disposal of any wastes.

- (b) Clause 7(5)(c) aims to ensure that the costs of environmentally destructive behaviours are internalised by consumers. As such, the provision of goods and services at a low cost is not necessarily a benefit. It only becomes a benefit if the cost remains low whilst reflecting the environmental impacts of providing the goods and services, including their disposal.
- (c) It is possible that the carbon tax and the emissions trading scheme (*ETS*) will go some way toward meeting this goal. There are two caveats to this, however:
 - (i) First, as Mr Morris emphasised in his cross-examination of Dr Washusen, it is possible that the tax and the *ETS* will be repealed if the Liberal Party is successful at the next federal election.¹⁶⁰ If that were to occur, then there would be no internalisation of cost by the DGDP.
 - (ii) Second, given the fluctuating nature of the carbon price under the *ETS*, it is possible that the market price will:
 - (1) Not accurately reflect the environmental cost of carbon;
 - (2) Be too low to achieve its desired regulatory goal of changing behaviour.
- (d) In addition, cheap electricity may act as a deterrent for energy consumers to implement energy efficiency options. Higher electricity prices may provide a benefit – or offset a detriment – by encouraging more efficient use of resources.

¹⁶⁰ Transcript, 1471, ln 5-25

- (e) Accordingly, the mere availability of lower priced power cannot be said to necessarily be a benefit.

Displacement of other power sources

73. It is extremely unlikely that the DGDP will displace existing brown coal generation:

- (a) A generator has the potential to displace another generator where it is able to sell electricity at a lower price. As explained above, the price at which electricity can be sold depends on the LRMC of the generator.
- (b) Given the higher LRMC of the DGDP as compared to a conventional brown coal fired power generator, the Tribunal should accept Dr Washusen's conclusions that the DGDP is 'extremely unlikely'¹⁶¹ to displace existing brown coal generators.
- (c) Moreover, even if the DGDP were in a position to displace brown coal financially, it is not clear that this would result in the closure of the power plants. As Dr Washusen said, a power station must either operate or close.¹⁶²

74. To the extent the DGDP may displace existing brown coal, it is also expected to displace natural gas generators. Mr Walton was quite candid about this in cross-examination.¹⁶³ As such, electricity from the DGDP would replace electricity currently being generated with lower emissions. This is obviously undesirable.

Overseas sales

75. Dual Gas has also argued that the IDGCC technology has the potential to be sold overseas. As Mr Morris said, however, 'these things are speculative.'¹⁶⁴ There is simply no evidence that any other country is presently interested in the

¹⁶¹ Transcript, 1342, ln 11

¹⁶² Transcript, 1342, ln 12 - 20

¹⁶³ Transcript, 1370, ln 20 - 1371, ln 10

¹⁶⁴ Transcript, 244, ln 20 - 21

technology or would be interested in the technology if the DGDGP were approved.

Utilisation of Victorian brown coal

76. A further argument put by Dual Gas is that the continued use of Victorian brown coal is a benefit, especially given the large quantities of it available. There are two points that may be put in response to this:

- (a) First, like many of the 'benefits' relied upon by Dual Gas, it is not clear that this is in fact a benefit. The continued use of brown coal is only a benefit if the use of the brown coal does not impose significant net costs on society, e.g. through climate change. Given that Dual Gas expects to displace lower polluting fuels such as natural gas, the continued use of brown coal is not in fact a benefit.
- (b) Second, the refusal of the application does not necessarily preclude the use of brown coal for purposes other than combustion. For example, it would still be open to use brown coal as fertiliser.
- (c) Additionally, Victoria's brown coal reserves are not going anywhere. If they are not used today, they will be available tomorrow. If CCS ever becomes a practical reality, it will be possible to use Victoria's brown coal reserves in a relatively environmentally friendly way.

CONCLUSION

77. For all of the reasons advanced, the application for review should be allowed and the decision of the EPA set aside

1 February 2012

ADRIAN J. FINANZIO

RUPERT WATTERS

EMMA PEPLER

OWEN DIXON CHAMBERS