

**STRATEGY AND POLICY REVIEW COMMITTEE**  
**7 JULY 2008**

**POLICY AND PLANNING**

<b>A1</b>	<b>GREEN ENERGY SUPPLY FOR PUBLIC LIGHTING AND COUNCIL FACILITIES</b>
<b>RESPONSIBLE EXECUTIVE DIRECTOR:</b>	<b>GEOFF OULTON, EXECUTIVE DIRECTOR COMMUNITY DEVELOPMENT AND PLANNING</b>
<b>AUTHOR:</b>	<b>PAUL SMITH, MANAGER ENVIRONMENT AND RENEWAL &amp; MICHAEL DODD, SUSTAINABLE ENVIRONMENT OFFICER - GREENHOUSE</b> <ol style="list-style-type: none"><li><b>1. UNDERSTANDING AUSTRALIA'S RENEWABLE ENERGY MARKET</b></li><li><b>2. CURRENT GREEN POWER &amp; RENEWALABLE ENERGY CERTIFICATE PURCHASE AT THE CITY OF PORT PHILLIP</b></li><li><b>3. PROPOSED CRITERIA FOR EVALUATING RENEWABLE ENERGY SUPPLY FOR COUNCIL'S METERED AND UN-METERED ELECTRICITY SUPPLY</b></li><li><b>4. PROJECTED ENERGY USE / COST / GHG IMPACT FOR STATED COPP SCENARIOS FOR COUNCIL BUILDINGS (METERED SITES)</b></li><li><b>5. COMPARISON OF PRIMARY METHODS TO REDUCE GREENHOUSE EMISSIONS AT THE CITY OF PORT PHILLIP - PRICE PER TONNE OF CARBON REDUCTION</b></li></ol>

---

**1. EXECUTIVE SUMMARY**

The purpose of this report is:-

- 1.1.** To increase understanding of the renewable energy industry.
- 1.2.** To outline the optimal role the purchasing of renewable energy should play in reducing the City of Port Phillip's reliance on coal-fired electricity associated with our metered (buildings) and un-metered sites (public lighting).
- 1.3.** To explore the value proposition of the purchase of Green Power as a greenhouse gas reduction response, against other strategies Council can

employ to meet its Greenhouse reduction targets, such as demand management (behaviour change and technology development).

And subsequently:-

- 1.4. To consider and adopt a position on the use of green power as a tool to manage Council's energy use in a more sustainable way.
- 1.5. To consider and adopt an effective and efficient level of green power to supplement Council's energy needs.

**2. BACKGROUND AND CONTEXT**

- 2.1. Council adopted the Toward Zero – Sustainable Environment Strategy in June 2007. A major part of the strategy focused on the level of energy, water, and waste used in - 1/ Council operations and 2/ within the wider community - and subsequently established reduction targets.
- 2.2. In the case of energy, Council has set a goal of zero net greenhouse gas emissions for its own operations by 2020. More than 80% of this target is expected to be met by addressing the emissions from electricity use associated with public lighting (un-metered sites), Council buildings (metered sites) and contract services (infrastructure-related). Council's vehicle fleet and general procurement will also play a role.
- 2.3. The strategy to achieve zero net emissions for Council's own operations denoted at that time was:-
  - 50% through demand management / energy efficiency;
  - 35% through use of renewable sources (green power, on-site);
  - 15% through use of offsets.
- 2.4. In March 2008, Council signed a contract with AGL Sales Pty Ltd for the electricity supply for un-metered public lighting for a 3-year period. At that time Council decided that it would tender separately for accredited renewable energy supply (Green Energy) for the electricity supply for un-metered public lighting. Green energy has not been purchased previously for un-metered public lighting.
- 2.5. In May 2008 Council signed a contract with AGL Sales Pty Ltd for the electricity supply for metered sites.
- 2.6. Council currently purchases greenhouse gas offsets (Green Power and Renewable Energy Certificates) equivalent to 25% of the electricity used for the nine (9) major Council-occupied buildings ( $\approx$  80% of electricity use for metered sites) through the purchase of both Accredited Green Power (10%) and Renewable Energy Certificates (15%). These agreements expire on the 30 June 2008 and 1 March 2009 respectively.
- 2.7. Analysis of the performance of existing Council assets (buildings and public lighting) indicates that energy use reductions of up to 40% are available on average across Council and this should remain the primary means by which Council reaches its greenhouse gas reduction target.
- 2.8. It is projected that energy prices, including those for renewable energy will increase by 50% by 2012.
- 2.9. The market for small scale renewable energy production is changing and becoming much more conducive for its installation in Council facilities.

**3. RECOMMENDED OPTION**

- 3.1. Council commence a tender process for 25% renewable energy purchase for its un-metered (public lighting) sites immediately. This will complement

the existing 25% renewable energy purchase for our metered (large buildings) sites.

- 3.2. Council maintains its existing 25% renewable energy purchase for its metered (buildings) sites.
- 3.3. Council limit Green Power purchase to no more than 25% of its metered and un-metered supply, and review this level on an annual basis.
- 3.4. Council purchase Green Power in accordance with the criterion outlined in Attachment 3 of this report.
- 3.5. Council continue to monitor, and engage as necessary, in the street lighting debate, with a view to understanding the most cost effective and green house gas abatement effective management strategy.
- 3.6. **Criterion for recommendation**
- 3.7. There are a number of renewable energy purchase options available to Council to reduce its greenhouse gas emissions and Council requires a clear criteria in discerning which products best suit its needs. This criteria is outlined in Attachment 3 to this report.
- 3.8. Rising Energy Prices mean that reducing energy use (demand management through behaviour change or infrastructure efficiency) should remain the primary focus for meeting its greenhouse reduction target.

#### **Metered Sites (buildings)**

- 3.9. Attachment 4 presents three scenarios considering energy use, electricity prices, demand management responses and use of green power associated with our metered sites (buildings). Table 1 shows:-
  - Doing nothing (scenario 2) vs demand management (scenario 1) will reduce GHG emissions by 16,000 tonnes (27% reduction) over the 8 year period
  - Demand Management responses (scenario 1) vs purchasing 25% green power alone (scenario 3) has a similar impact on GHG emissions (42,650 tonnes vs 43,830 tonnes – over the 8 year period), however the latter will cost in the order of \$2.7m more.
  - Demand management responses and purchase of green power delivers additional GHG emission benefits – 31,990 tonnes over the same period.
- 3.10. Attachment 5 directly compares the return of typical demand management initiatives for Council's metered site operations, against the purchase of green power. Table 2 clearly shows that demand management initiatives are a better investment than green power purchase, which essentially increase in value over time.
- 3.11. The purchase of green power could be seen as a panacea to achieving our target of zero emissions by 2020 with the least pain possible. It is however, expensive and effectively presents as a permanent increasing annual

expense linked to increasing electricity prices, whereas demand management initiatives are an investment, which provide increasing returns over time (in the form of lower electricity costs due to lower demand).

- 3.12. The purchase of green power is however an integral response to achieve our targets, as it essentially accelerates emission reductions, and thus should be used as part of the carbon emission reduction ‘tool box’.
- 3.13. A level of 25% green power purchase is considered appropriate taking account of our strategy (point 2.3 above), the above discussion and associated attachments 1 – 5.

**Un-metered sites (public lighting)**

- 3.14. Public street lighting represents up to 50% of Council’s own operations GHG emissions.
- 3.15. The demand management responses for public street lighting (effectively more energy efficient forms of public lighting) are basically understood, however the complexity of the public lighting regulatory and operating framework within Victoria presents challenges to innovation and the implementation of more sustainable lighting options.
- 3.16. For instance - at this time - it is possible for green power purchase to be cheaper than implementing more energy efficient forms of public lighting. The annual operation, maintenance and replacement (OMR) charges of the more technically advanced sustainable lighting options may possibly be more expensive than the green power premium. This is clearly unacceptable and thus further work at the Government level is required to progress.
- 3.17. The Victorian Sustainability Accord (partnership program between the Victorian State Government and local governments aimed at progressing local, regional and state-wide environmental sustainability) and with the MAV is progressing this issue through the Public Lighting Taskforce and other formal interest groups.
- 3.18. Some form of resolution is expected over the next 12 months.
- 3.19. Thus, at this time, the purchase of 25% green power to be reviewed annually is considered appropriate at this time.

**4. SUSTAINABILITY ASSESSMENT**

Social Pillar	More effective and efficient use of the world’s natural resources, while reducing use of coal-fired electricity sources has significant health and wellbeing benefits
Economic Pillar	The costs to society of secondary impacts borne by GHG emissions (healthcare, eco-system damage, etc) are reduced with the use of cleaner energy sources
Environmental Pillar	Green power is a cleaner, greener energy source emitting significantly lower dangerous green house gases
Cultural Pillar	Pride in place is increased if the community value it – cleaner energy sources are something the community would be proud of

**4.1. Policy and legislative implications**

- 4.1.1. Toward Zero Sustainable Environment Strategy recommends the use of renewable energy sources and suggests the proportion be in the order of 35% (green power and eventually on-site generation)
- 4.1.2. The purchase of green power will be undertaken through a competitive tender process.

**4.2. Risk implications**

- 4.2.1. Minimal
- 4.2.2. Green power will be purchased and reviewed on an annual basis
- 4.2.3. Green power will be purchased in accordance with the criteria outlined in Attachment 3 to ensure it is 100% accredited Green Power

**4.3. Resource implications**

- 4.3.1. The recommended option of purchasing 25% green power for both metered (buildings) and un-metered (public lighting) sites is in the order of \$50,000 pa and \$80,000 pa respectively – a total of \$130,000 pa. Funds have been provided within the 07/08 and 08/09 operational budgets to fully fund this initiative.
- 4.3.2. Interestingly, extrapolating the above and including Council's emissions from fleet (about 6%) Council could 'go carbon-neutral' solely through green power immediately for a cost in the order of \$600,000 pa. It should be noted however, contract services and general procurement emissions have not been measured and calculated to date and thus the real cost of carbon neutrality for the City of Port Phillip organisation would be significantly more and probably greater than \$1m pa. Consideration of what you would get for a \$1m investment in demand management initiatives pa can be appreciated by reviewing Table 2 in Attachment 5.

**5. ALTERNATIVE OPTIONS**

- 5.1. Council could decide to:-
- Not purchase green power
  - Purchase more green power
  - Purchase less green power
  - Purchase cheaper 'lighter' green power

**5.2. Alternatives**

Consideration of the four alternatives are outlined below

**5.2.1. Policy and legislative implications**

None of the above options have any particular adverse impact on legislation, however the purchase of no or less green power would be contrary to Council's Toward Zero action plan / strategy.

**5.2.2. Risk implications**

Purchasing less or no green power reduces the chances of Council achieving its carbon neutral goal by 2020.

The reputation of Council risks being damaged and the impact on carbon emissions reduced through purchasing cheaper 'lighter' green power.

**5.2.3. Resource implications**

Purchasing 25% green power for buildings and public lighting as proposed costs in the order of \$130,000. Costs for purchasing more or less green power would be proportional to this amount. Purchasing more however would result in additional budget, and this needing to be funded within existing budget, would result in one or more other services being affected (replaced).

**6. PARTICIPATION AND ENGAGEMENT**

**6.1. Internal**

6.1.1. The people who have been engaged with in relation to this issue are:

- Councillor's via Council briefing in May 2008
- Manager Asset Services
- Project Manager Infrastructure Planning
- Project Manager Sustainability
- Manager Buildings and Green Spaces

**6.2. External**

N/A

**7. IMPLEMENTATION**

7.1. It is proposed to purchase green power as follows:-

- Public tender for 25% green power for un-metered (public lighting) sites in July 2008, and back date to 1 July 2008;

- In above, include 10% green power for metered sites (AGL green power contract expires 30 June 2008);
- Extend renewable energy certificates (REC's) for 15% green power for metered sites from 1 March 2009 through to 30 June 2009. Already complete.

**8. COMMUNICATION**

8.1. Key communication messages associated with the recommended option are:-

- Reducing energy use for metered sites remains the most cost effective strategy in reducing Council's carbon footprint.
- The purchase of renewable energy (Green Power) is an important part of meeting Council's greenhouse gas reduction targets.
- Council will limit its purchase of Green Power to 25% for metered and un-metered sites and use accredited renewable energy products only.
- Further investigation into understanding the most cost effective strategy for reducing Council's carbon footprint for its un-metered sites (public street lighting) will continue to be undertaken.
- The use and level of Green Power will be reviewed annually to ensure Council is achieving its greenhouse gas reductions in the most effective and efficient manner available.

8.2. The above messages will be communicated via various channels including Divercity and the Toward Zero community brochure currently being formulated.

**9. RECOMMENDATION**

That the Strategy and Policy Review Committee recommend that Council resolve to:

- 9.1. Commence a tender process for 25% renewable energy purchase for its un-metered (public lighting) sites immediately.
- 9.2. Maintain its existing 25% renewable energy purchase for its metered (buildings) sites.
- 9.3. Limit green power purchase to no more than 25% of its metered and un-metered sites, and review this level on an annual basis.
- 9.4. Council purchase green power in accordance with the criteria outlined in Attachment 3 of this report.
- 9.5. Continue to monitor, and engage as necessary, in the street lighting debate, with a view to understanding the most cost effective and green house gas abatement effective management strategy.