

## CITY OF JOONDALUP

Minutes of meeting of the **SUSTAINABILITY ADVISORY COMMITTEE** held in the Training Room, Joondalup Administration Building, Boas Avenue, Joondalup on **THURSDAY 19 JANUARY 2006**.

### ATTENDANCE

#### Committee Members:

*Ms Marilyn Horgan*  
*Mr Steve Magyar*  
*Cmr. Michael Anderson*  
*Ms Ute Goeft*

*Professor Adrienne Kinnear*  
*Mr Vincent Cusack*

*Mr Martin Brueckner*  
*Mr Kieron D'Arcy*

**Chairperson**  
**Deputy Chairperson**  
**Commissioner** (*In attendance from 1740hrs*)  
**Community Representative** (*Absent from 19.45hrs to 19.50hrs*)  
**Edith Cowan University Representative**  
**Community Representative** (*Absent from 2025 hrs to 2030hrs*)  
**Community Representative**  
**Community Representative**

#### Officers:

Manager, Strategic and Sustainable Development	R HARDY ( <i>Absent from 2025 hrs to 2027hrs</i> )
Team leader Organisational Policy and Planning	G BLAKE ( <i>to 2010hrs</i> )
Acting Manager Marketing, Communications and Council Support	J HARRISON ( <i>to 19.40hrs</i> )
Sustainable Development Officer	B TAPLEY ( <i>to 1935hrs</i> )
Grants and Administration Officer (Minute taker)	M PRENTICE

### APOLOGIES/LEAVE OF ABSENCE

<i>Mr Geoff Down</i>	<b>Community Representative</b>
<i>Mr Will Carstairs</i>	<b>Community Representative</b>
<i>Mr David Wake</i>	<b>Community Representative</b>
<i>Professor Sherry Saggars</i>	<b>Edith Cowan University Representative</b>

### GUESTS

Nil

The Chairperson declared the meeting open at 1735 hrs.

**CONFIRMATION OF MINUTES****MINUTES OF THE SUSTAINABILITY ADVISORY COMMITTEE MEETING HELD ON 16 JUNE 2005****MOVED Mr Magyar SECONDED Ms Goeft that:**

1. **The Minutes of the Sustainability Advisory Committee held on 16 June 2005 be confirmed as a true and accurate record of proceedings.**
2. **The Sustainability Advisory Committee notes:**
  - (a) **the minutes of the meeting held on Thursday 28 July 2005 were not recorded due to lack of quorum.**
  - (b) **the minutes of the meeting held on Thursday 8 September 2005 were not recorded due to lack of quorum.**

**The Motion was Put and****CARRIED (7/0)****In favour of the Motion:** Ms Marilyn Horgan, Mr Steve Magyar, Ms Ute Goeft, Mr Martin Brueckner, Dr Vincent Cusack, Mr Kieron D'Arcy, Cmr Michael Anderson.**Against the Motion:** Nil**ANNOUNCEMENTS BY CHAIRPERSON WITHOUT DISCUSSION**

Nil

**DECLARATIONS OF FINANCIAL INTEREST**

Nil

**PETITIONS AND DEPUTATIONS**

Nil

## ITEMS OF BUSINESS

### ITEM 1 ORDER OF BUSINESS FOR MEETINGS OF THE SUSTAINABILITY ADVISORY COMMITTEE

WARD: All

---

#### PURPOSE

To note the introduction of the Standing Orders Local Law 2005 and the matters contained therein, and set the order of business for meetings of the Sustainability Advisory Committee.

#### EXECUTIVE SUMMARY

The Standing Orders Local Law 2005 was adopted by Council on 22 November 2005 and came into operation on 3 January 2006.

It is recommended that the Sustainability Advisory Committee notes the introduction of the Standing Orders Local Laws 2005 and the matters contained therein, and sets the order of business for its meetings in line with this local law.

#### BACKGROUND

With the split of the former City of Wanneroo on 1 July 1998, all the local laws of the former City of Wanneroo became the local laws of the City of Joondalup.

Since that time there has been a concerted effort to review those former local laws and revise them to better reflect the operations of the City of Joondalup. This also allowed the City to have a complete and updated set of enforceable local laws. The comprehensive review of the Standing Orders Local Law was the final local law reviewed from the former City of Wanneroo. This review initially commenced in late 1999 and at its meeting held on 22 November 2005 the Council adopted the Standing Orders Local Law 2005. This local law was gazetted on 20 December 2005 and came into operation on 3 January 2006.

#### DETAILS

The Standing Orders Local Law 2005, which came into effect on 3 January 2006, provides a set of procedures to *“assist in the good conduct of meetings of the Council, of committees and of the electors.”*

This local law has been based on the best practice principles of well-structured agendas that are short and sharp, which allows sufficient time to debate, and set policy and strategy to achieve the best results for the community.

A copy of the Standing Orders Local Law 2005 has been provided to Committee members for their information.

**Issues and options considered:**Order of Business

Within Part 3 – Business at Meeting, Clause 14 (2) of the Standing Orders Local Law states:

*The items of business to be dealt with at an ordinary meeting of the committee are set out in paragraphs (a) to (m) inclusive of this sub clause. The order in which those items are to be dealt with, is as resolved by the committee, from time to time. In the absence of a resolution of the committee, the order is as follows:*

- (a) *Declaration of opening*
- (b) *Public question time*
- (c) *Public statement time*
- (d) *Apologies/leave of absence*
- (e) *Confirmation of minutes*
- (f) *Announcements by the presiding person without discussion*
- (g) *Declarations of interests*
- (h) *Identification of matters for which the meeting may sit behind closed doors*
- (i) *Petitions and deputations*
- (j) *Reports*
- (k) *Motions of which previous notice has been given*
- (l) *Requests for reports for future consideration; and*
- (m) *Closure*

It is appropriate that the Sustainability Advisory Committee sets its order of business, in line with the order above, subject to the following changes:

- (b) Public question time.

Clause 15(7) states:

*“Notwithstanding clause 14(2) there is to be no public question time in meetings of committees other than a committee to which the local government has delegated a power or duty.”*

The Sustainability Advisory Committee has not been delegated a power or duty; therefore this item of business is not required.

- (c) Public Statement time

Clause 16(2) states:

*“Notwithstanding clause 14(2) there is to be no public statement time in meetings of committees other than a committee to which the local government has delegated a power or duty.”*

The Sustainability Advisory Committee has not been delegated a power or duty, therefore this item of business is not required.

- (h) Identification of matters for which the meeting may sit behind closed doors

The Sustainability Advisory Committee does not meet in open doors, therefore this item of business is not required.

### Voting

For the purpose of recording of minutes of committee meetings, the attending of the Committee is drawn to the requirement of Clause 13(3) of the local law, which states:

*“For each motion and amendment, the minutes of the meeting are to record the names of members voting in the affirmative and the names of members voting in the negative.”*

### **Link to Strategic Plan:**

*Outcomes:*

*The City of Joondalup is an interactive community.*

*Objectives:*

- 4.3 *To ensure the City responds to and communicates with the community.*

*Strategies*

- 4.3.3 *Provide fair and transparent decision-making processes.*

### **Legislation – Statutory Provisions:**

#### Local Government Act 1995

- 5.21 (1) *Each council member and each member of a committee who is present at a meeting of the council or committee is entitled to one vote.*
- (2) *Subject to section 5.67, each council member and each member of a committee to which a local government power or duty has been delegated who is present at a meeting of the council or committee is to vote.*
- (3) *If the votes of members present at a council or a committee meeting are equally divided, the person presiding is to cast a second vote.*

(4) *If a member of a council or a committee specifically requests that there be recorded-*

(a) *his or her vote; or*

(b) *the vote of all members present,*

*on a matter voted on at a meeting of the council or the committee, the person presiding is to cause the vote or votes, as the case may be, to be recorded in the minutes.*

Local Government (Administration) Regulations 1996.

9. *Voting at a council or committee meeting is to be conducted so that no voter's vote is secret.*

**Risk Management considerations:**

All Council and committee meetings must comply with the requirements of the Standing Orders Local Law 2005.

**Financial/Budget Implications:**

Not applicable

**Policy implications:**

Not applicable

**Regional Significance:**

Not applicable

**Sustainability implications:**

Nil

**Consultation:**

Nil

**COMMENT**

The Standing Orders Local Law 2005 governs the conduct of Council and committee meetings and requires to be drawn to the attention of Committee members.

**ATTACHMENTS**

Nil

**VOTING REQUIREMENTS**

Simple Majority

**OFFICER'S RECOMMENDATION**

That the Sustainability Advisory Committee:

- 1 SETS the following order of business for its meetings:
  - (a) Declaration of opening
  - (b) Apologies/leave of absence
  - (c) Confirmation of minutes
  - (d) Announcements by the presiding person without discussion
  - (e) Declarations of interests
  - (f) Petitions and deputations
  - (g) Reports
  - (h) Motions of which previous notice has been given
  - (i) Requests for reports for future consideration
  - (j) Closure
  
- 2 NOTES that for each motion and amendment, the minutes of committee meetings are to record the names of members voting in the affirmative and the names of members voting in the negative.

Mr Magyar advised he did not agree with the setting of the order of business for the Sustainability Advisory Committee, as the role of the committee is to raise public awareness of sustainability issues. He suggested that Sustainability Advisory Committee meetings be held open to the public and agendas and minutes be advertised and forwarded to the local media.

The Acting Manager Marketing Communications and Council Support provided an overview of the report. The Committee was advised of an error within the report that incorrectly suggested the removal of the item of business relating to "Identification of matters for which the meeting may sit behind closed doors". Clause 14(2) of the Standing Orders does not permit items to be removed from the order of business, therefore this item needs to be included as point 1(f) of the Recommendation.

Discussion ensued on the Standing Orders Local Law, in particular the ability of the Committee to raise items of general business under the new order of business.

**MOVED Mr Magyar** that public question time be inserted into the Standing Orders Local Law and that the Sustainability Advisory Committee requests that the commissioners endorse the Sustainability Advisory Committee to be an open public meeting.

**There being no Seconder the Motion**

**LAPSED**

**MOVED Dr Cusack SECONDED Cmr Anderson that the Sustainability Advisory Committee:**

- 1 SETS the following order of business for its meetings provided such an order of business allows this committee to function as effectively with broad discussion as it has in the past;**
  - (a) Declaration of opening**
  - (b) Apologies/leave of absence**
  - (c) Confirmation of minutes**
  - (d) Announcements by the presiding person without discussion**
  - (e) Declarations of interests**
  - (f) Identification of matters for which the meeting may sit behind closed doors**
  - (g) Petitions and deputations**
  - (h) Reports**
  - (i) Motions of which previous notice has been given**
  - (j) Requests for reports for future consideration**
  - (k) Closure**
  
- 2 NOTES that for each motion and amendment, the minutes of committee meetings are to record the names of members voting in the affirmative and the names of members voting in the negative.**

**The Motion was Put and**

**CARRIED (6/1)**

**In favour of the Motion:** Ms Marilyn Horgan, Ms Ute Goeft, Mr Martin Brueckner, Dr Vincent Cusack, Mr Kieron D'Arcy, Cmr Michael Anderson.

**Against the Motion:** Mr Steve Magyar

**ITEM 2      BEST PRACTICE CONSIDERATIONS FOR A SUSTAINABLE VEHICLE FLEET AT THE CITY OF JOONDALUP****WARD      All**

---

**PURPOSE**

To report on options (including hybrid vehicles) for operating corporate vehicles in adherence with best practice sustainability principles.

**EXECUTIVE SUMMARY**

At its meeting on the 12 October 2004 (CJ230 – 10/04 refers) Council resolved to *REQUEST the Sustainability Advisory Committee investigate and report to the Council on options (including hybrid vehicles) relating to the operating of corporate vehicles that adheres to best practice sustainability principles.*

This report discusses the most significant issues relating to the management of a best practice vehicle fleet which include:

- Fuel efficiency;
- Fuel types;
- Appropriate engine capacity;
- Hybrid vehicles;
- Other considerations in line with the North Metropolitan Zone findings, such as bio-diesel and ethanol alternatives; and
- Reducing greenhouse gas emissions.

The selection process for the City of Joondalup's vehicle fleet considers many important criteria such as fuel efficiency, cost of maintenance and residual value. The Australasian Fleet Managers Association 'Greener Motoring – The How to Guide' provides a significant framework for best practice vehicle fleet management. This is reflected in the details and recommendations of this report.

This report recommends that the Sustainability Advisory Committee endorse the proposal that Council:

1. *NOTES the report on best practice considerations for a sustainable vehicle fleet at the City of Joondalup.*
2. *ENDORSES the incorporation of the Australian Fleet Managers Association 'Greener Motoring – The How to Guide' to be utilised in conjunction with City vehicle management procedures*
3. *NOTES the purchase of two (2) hybrid vehicles will occur in 2005/06 and will replace two conventional vehicles of similar size that are predominately used in high use stop/start conditions for trialling purpose;*
4. *NOTES that the City will participate with the Western Australian Local Government Association (WALGA) proposal to investigate options for using alternative fuel supplies not limited to but including bio-diesel and ethanol;*

5. *NOTES that the City has an extensive annual tree-planting program for operational purposes which may be capable of being recognised for carbon sequestration purposes; and*
6. *NOTES that the city will further investigate options for participating in a carbon sequestration program.*

## **BACKGROUND**

At the special Council meeting of 19 August 2004 it was requested “that a report be submitted to Council on the option of hybrid vehicles for use by all officers” (JSC29-08/04 refers).

A report was submitted to Council (CJ254 – 11/04 refers) on the 2 November 2004 and Council resolved to “*REQUEST the Sustainability Advisory Committee investigate and report to the Council on (including hybrid vehicles) relating to the operating of corporate vehicles that adheres to best practice sustainability principles.*”

The City and the Sustainability Advisory Committee working group has investigated some of the key sustainability best practice principles for vehicle fleet management and developed recommendations based on several criteria including fuel efficiency, greenhouse gas emissions, fuel type and whole of life cycle costs.

The City of Joondalup operates a vehicle fleet that requires considerable energy and financial inputs to maintain. This fleet represents a major capital expenditure and is an important asset in achieving operational objectives. The present net book value of the City’s light and heavy vehicle fleet is approximately \$4,364,000 as at October 2005. In the current 2005/06 financial year the City proposes to fund the replacement of 32 vehicles costing over \$1.4 million. The \$1.4 million is gross cost to purchase and with trade-ins the City will outlay approximately \$600,000

The City of Joondalup’s vehicle fleet has a total of 153 vehicles and is comprised of:

- 48 diesel vehicles (trucks, buses, vans, utes);
- 14 liquefied petroleum gas (LPG) vehicles; and
- 91 unleaded petrol (ULP) vehicles.

The Australian Design Rules set out design standards for vehicle safety and emissions. They are developed through a consultative process involving government, industry, employee and consumer representatives. The introduction of Euro 3 petrol vehicle emissions standards in 2005 and Euro 4 diesel vehicle standards in 2006 have been anticipated. Trucks listed on the City’s 2005/06 Vehicle Replacement Programme have been specified to be 2006 compliant to Euro 4 emission standards. This ensures that the City is always purchasing fleet items that meet the most current emission standards.

## **DETAILS**

### **Issues and options considered**

This report encompasses research and advice from members of the Sustainability Advisory Committee, technical staff across the organisation, other local governments and recommendations from The Australasian Fleet Managers Association ‘Greener Motoring’ – The How to Guide.

## Greener Motoring Guide

The Australasian Fleet Managers Association has developed a 'Greener Motoring – The How to Guide' (Attachment 1) which considers best practice for vehicle fleet management. Greener Motoring is an initiative by Australasian Fleet Managers' Association supported by the Commonwealth's Energy Efficiency Best Practice Program to reduce the environmental impact of fleet vehicles throughout Australia and is therefore an ideal benchmark document for the City of Joondalup. The Australasian Fleet Managers Association presents 'Certificates of Energy Efficiency Best Practice' for best practice vehicle fleet management under the Greener Motoring categories. Examples of these awards and the financial savings and emissions reductions are shown at Attachment 2.

The guide covers issues associated with social, environmental and economic sustainability. According to the 'Greener Motoring – The How to Guide' for a four (4) year vehicle fleet management cycle of one hundred passenger vehicles, substantial financial savings can be made from approaches such as:

- A whole of life costing approach to vehicle selection, taking in fuel efficiency, can deliver savings of up to \$250,000;
- A change in driving style could save in excess of \$110,000;
- Ensuring that vehicles run on correct tyre pressure can also reduce costs;
- Involving drivers in the formulation of fuel reduction strategies can potentially reduce costs as drivers become aware of their ability to positively impact on the issue; and
- Demonstrating that fuel usage is being monitored on a regular basis has been known to lead to a decrease in fuel usage.

The City of Joondalup proposes to utilise the Greener Motoring document as part of the current review of policy related to Council vehicles to assist in future vehicle fleet management and purchases. An overview of this document is provided (see Attachment 1). The full version of the document is available at <http://www.greenermotoring.com.au/> and provides improved operational requirements and policy frameworks to ensure that sustainability is considered for the City's vehicle fleet.

### Best Practice Management

The most significant issues relating to the management of a best practice vehicle fleet are discussed below. These include:

- 1 Fuel efficiency;
- 2 Fuel types;
- 3 Other alternative fuel considerations such as bio-diesel and ethanol alternatives;
- 4 Appropriate engine capacity;
- 5 Current and future vehicle alternatives such as hybrid and hydrogen vehicles; and
- 6 Reducing greenhouse gas emissions.

These issues are presented to support any decisions made to employ best practice sustainability principles for vehicle fleet management.

#### 1. Fuel efficiency

The fuel efficiency of fleet vehicles at the City of Joondalup is an important measure for comparison and provides a useful guide to the environmental and economic impacts of particular vehicle types. The greater the fuel efficiency the more distance can be travelled per litre of fuel and the less greenhouse gas emissions. The City currently considers fuel efficiency as a key criterion when purchasing new vehicles. The City's current fuel provider supplies a detailed fuel consumption report each month in order for the City to monitoring fuel efficiency.

## 2. Fuel Types

The City currently makes detailed assessments for all new purchases to determine the whole of life costing for LPG and unleaded vehicles. Changing fuel type is one of the most obvious avenues for investigation. The lower costs and greater distance per litre (efficiency) offered by some fuels compared with unleaded petrol presents a compelling case for change but there are advantages and disadvantages. Higher vehicle procurement costs and lower resale values need to be factored into any evaluation before any decision should be made to switch to alternative fuels.

Presently, the fuel types used by the City's fleet vehicles include unleaded petrol, LPG and diesel, which are commonly available in Western Australia. Unleaded petrol is most commonly used for the City's fleet vehicles, as it is readily available and commonly the dedicated fuel type for most vehicles and at the time of purchase offers the lowest whole of life cycle cost.

### *LPG*

LPG is a relatively mature technology and full factory warranty dedicated LPG and dual fuel (LPG/ULP) vehicles are now available from Holden, Ford, Mitsubishi, Mazda, ISUZU and Volvo, with others expected to follow. Fleet lease companies now offer LPG vehicles to their customers, particularly for the higher kilometre vehicles. LPG is cheap and is becoming more popular in vehicle fleets due to the environmental implications, improvements in availability and potential economic savings. Although LPG is less efficient than ULP, it is a cleaner fuel as it produces less harmful particulates and greenhouse gases per litre of fuel.

Anecdotal evidence suggests an approximate cost for LPG conversion is in the range of \$2,500 and \$3,500 for new vehicles. It would take three years to recover the costs of converting a vehicle to LPG conversion based on: a \$3,000 conversion cost; 20,000 kms per year travel; a \$0.62/litre cost differential between ULP & LPG; and ULP consumption of 11 litres/100km.

In the three years that it takes to recover the \$3,000 cost, 60,000km would have been travelled in passenger vehicles (thus 60,000 kms is the breakeven distance to recoup the \$3,000 cost). The City has a vehicle replacement programme in which commercial vehicles are replaced when they reach 90,000 kms. Consequently, vehicles that travel beyond the breakeven 60,000kms to reach the 90,000km limit will save \$1,500 in fuel costs and will abate 10 tonnes of CO<sup>2</sup> emissions. The cost of LPG at the time this report was prepared (October 2005) was averaged at \$0.48/litre.

### *Diesel*

Diesel fueled passenger vehicles have not been widely accepted by Australian motorists in the past. However with the rising cost of fuel, drivers are increasingly looking for vehicles that have a low fuel consumption and long engine life. The demand for diesel powered passenger vehicles is now increasing and vehicle manufacturers are releasing additional models with small diesel engines with fuel consumption figures approaching 5 litres per 100km. The diesel engines are more robust, with lower maintenance costs, compared to ULP engines.

The City operates 48 diesel vehicles and all are commercial and truck configurations. It is expected that the City may purchase diesel powered passenger vehicles in the future, subject to favourable whole of life costing.

However diesel emits the highest amount of CO<sub>2</sub> emissions per litre of fuel consumed, as shown in the following table:

Fuel Type	CO <sub>2</sub> emissions per litre of fuel consumed
Diesel	2.7kg
Petrol	2.5kg
Liquefied Petroleum Gas (LPG)	1.6kg

Source: AGO 2005

### *Biodiesel*

The Local Government Association 'North Metropolitan Zone' is a strategic regional group that has representation from north metropolitan councils including the City of Joondalup. At the 29 September 2005 meeting of the North Metropolitan Zone, it was resolved:

1. *That a study group from the North Zone examine the possibilities of creating a partnership with one or more fuel generating companies to examine the possibility of conversion of waste plastics and waste oil collected by local authorities to low sulphur **biodiesel fuel**.*
2. *That the study include an examination of potential cost benefits that may be available from a lower fuel excise regime and from grants available for new initiatives in producing **alternative energy**.*

This report recommends that the City investigate options for using alternative fuel supplies not limited to but including bio-diesel. Biodiesel is a clean-burning diesel fuel made from natural, renewable sources such as vegetable oils or animal fats. It can be made from domestically produced, renewable oilseed crops such as soybeans, canola, cottonseed and mustard seed.

The increased use of biomass requires careful consideration of all environmental impacts. While positive impacts such as reduction in fossil CO<sub>2</sub> emissions at the combustion stage are evident, the indirect impacts such as from fertilizer production, agriculture, and fuel processing are more complex. Moreover, different cultivation processes or production and utilization techniques lead to significantly different results. However, extensive research into the environmental impacts of biodiesel shows that there is an "overall" ecological advantage against diesel oil. This is illustrated in the following table.

Biodiesel can be operated in any diesel engine with little or no modification to the engine or the fuel system, and maintains the payload capacity and range of diesel. According to the Biodiesel Association of Australia, biodiesel delivers emissions reductions while maintaining current fleets, refuelling stations, spare parts inventories and skilled diesel mechanics. Research by Biodiesel Energy and the US Department of Agriculture conclude that biodiesel reduces net carbon dioxide (CO<sub>2</sub>) emissions by 78 percent compared to petroleum diesel.

Biodiesel is an emerging alternative fuel in Australia and is not yet available for general supply, however, it is recognised by the Federal and State government as a valid alternative fuel and is listed as one of the fuels eligible for a fuel rebate. Biodiesel is also a proven fuel in the United States and has over 20 years of use in Europe.

### *Ethanol*

Research shows that for a very high ethanol content fuel, there could be the potential for a 40 to 50% reduction in CO<sup>2</sup> equivalent emissions. This large reduction is applicable when ethanol is produced from wheat or molasses. However, the same fuel could result in a 60% increase in CO<sup>2</sup> equivalent emissions, when considering the full fuel cycle emissions, if the ethanol is produced from ethylene<sup>1</sup>. The table below further illustrates how the source of the ethanol determines the greenhouse gas outcome. It should be noted that at least one major fuel company is now providing 10% ethanol as a fuel option.

<sup>1</sup> Source Franke and Reinhardt 1998 "Environmental Impacts of Biodiesel Use" BioEnergy 1998: Expanding BioEnergy Partnerships

### *CNG, LNG and Hydrogen Fuel Cells*

Other fuels are available such as compressed natural gas (CNG), Liquefied natural gas (LNG) and hydrogen fuel cells, but these technologies are usually very expensive and in some cases unproven. CNG has been used extensively in Italy and New Zealand and is beginning to enter the Australian transport fuel market, where its main application has been fleets of heavy vehicles operating from central locations in urban areas due to the limited range. LNG has a longer range than CNG due to the greater fuel density of a liquid than a compressed gas.

The lifecycle emissions (per Km travelled) of selected alternative fuels are summarised below:

<b>Alternative Fuels</b>	<b>Precombustion (Kg of CO<sup>2</sup>)</b>	<b>Combustion (Kg of CO<sup>2</sup>)</b>	<b>Lifecycle Greenhouse Gas Emissions (Kg of CO<sup>2</sup> per Km travelled)</b>
Hydrogen (from natural gas)	0.09	0.07	0.16
Ethanol (ethylene)	0.10	0.04	0.14
Diesel (low sulphur)	0.02	0.07	0.09
LNG (perth)	0.02	0.06	0.08
CNG (electric compression)	0.02	0.06	0.08
Ethanol (wheat)	0.07	0.00	0.07
Ethanol (molasses expanded)	0.04	0.00	0.04
Biodiesel (canola)	0.04	0.00	0.04
Biodiesel (soybean)	0.03	0.00	0.03
Ethanol (woodwaste)	0.01	0.00	0.01
Biodiesel (waste oil)	0.01	0.00	0.01

Source: CSIRO 2005

<sup>1</sup> AGO 2002, 'A Literature Review Based Assessment on the Impacts of a 20% Ethanol Gasoline Fuel Blend on the Australian Vehicle Fleet'.

Furthermore, the advantages and disadvantages of selected fuels as shown in the Greener Motoring Guide is summarised in the following table:

<b>Fuel</b>	<b>*Energy content</b>	<b>Vehicle Storage</b>	<b>Storage Refuelling</b>	<b>Comments</b>
LPG and LNG	80%	Low pressure. Tanks may be certified as high as 1000psi. LNG tank must have special insulation.	Low pressure 1000 psi. LNG tank must have special insulation.	Refuelling infrastructure widely available. No Commercial LNG outlet in the metro area. LNG is stored in insulated tanks at –162 degrees C. LNG is suitable for large diesel truck engines
CNG (Compressed Natural Gas)	25%	High pressure. In USA tanks are certified as high as 10000 psi. High volume (size) tank required. No special materials required.	High-pressure 3000 psi. Suited to central refuelling applications.	Refuelling infrastructure not widely available.  Suitable for large diesel truck engines which do not travel far from base.
Alcohol based - Ethanol	106%	Corrosive – requires special materials.	Corrosive – requires special materials.	Not readily available.
Electric	NA	Still new technology. Best method still to be determined.	Special connection required.	Limited range. Weight is a problem. High cost.
Hydrogen Fuel Cell	NA	New technology. Best method still to be determined.	New technology. Best method still to be determined.	Limited range and performance. High cost.

### 3. Other Alternative Fuel Considerations

Other best practice principles that could be considered for incorporation in the City’s fleet management processes are outlined in the Australasian Fleet Managers Association ‘Greener Motoring – The How to Guide’, which considers the following:

- The use of low sulphur diesel or bio-diesel (where ever possible) and ethanol/petrol blends that meet environmental specifications;
- Purchase original-equipment-manufactured alternative fuel vehicles or retrofit vehicles when life-cycle costs are comparable to those for ULP or diesel fuelled vehicles. This will provide an environmental benefit through reduced greenhouse gas emissions;
- Reduce the number of vehicles for administrative use wherever possible based on operational need;

- Specify that service contractors recycle all used vehicle liquids (i.e. oil, antifreeze and CFCs); and
- Conduct driver education for enhanced energy savings and safety.

The consideration of alternative fuels usage is a matter that will require further investigation given the lack of usage data available at this point of their evolution. The use of bio-diesel and ethanol alternatives will require cooperation with other levels of Government in sourcing and developing the market.

#### **4. Appropriate Engine Capacity - Four (4) cylinder vehicles versus six (6) cylinder vehicles**

Most organisations set a replacement criteria based on the life of the vehicle (months in service) or accumulated distance travelled at which it is believed the specific vehicle should be replaced.

Factors that influence the replacement criteria for vehicles includes resale value, distance travelled, maintenance and reliability, vehicle condition and non-financial considerations, such as safety and the environment.

##### *Current Vehicle Fleet*

The City of Joondalup currently owns and operates 61 six cylinder vehicles. There are 21 six cylinder vehicles in the fleet that have been identified for possible replacement with four (4) cylinder vehicles. The City needs to undertake a 'fit for purpose' evaluation to determine if these vehicles could be downsized to four (4) cylinder vehicles, which would reduce fuel consumption and associated costs as well as reducing greenhouse gas emissions significantly.

A further 17 vehicles in the fleet are provided to staff for commuting and private use purposes. Before these vehicles are considered for downsizing to four (4) cylinders, the contractual obligations to staff will require assessment.

There is considerable evidence in the market that shows a four (4) cylinder vehicle is far more economical to run than a six (6) cylinder. It has been estimated that four (4) cylinder sedans operated by the City cost \$207 per week to operate whilst six (6) cylinder sedans cost \$312 per week. The calculations are based on running costs including interest on finance, registration, insurance, Fringe Benefits Tax (FBT), depreciation and the cost of petrol<sup>2</sup>.

##### *Safety*

There is a common perception that six (6) cylinder vehicles are safer than four (4) cylinder vehicles. However, local car dealers are now selling four (4) cylinder vehicles that have the same safety standards as six (6) cylinder vehicles. For example, the new model four (4) cylinder Mitsubishi Lancers have the same safety specifications as the six (6) cylinder vehicles including dual airbags and high quality ABS brakes.

---

<sup>2</sup> Costings provided by the City of Joondalup 2005.

*Fringe Benefits Tax*

Fringe Benefits Tax (FBT) is calculated on the purchase price of the vehicle and the kilometres travelled. Because the FBT depends on the purchase price of the vehicle, the FBT will be reduced by moving from more expensive six (6) cylinder to cheaper four (4) cylinder vehicles. For example, a four (4) cylinder sedan costing \$18,000 would be approximately 30% less in FBT than a six (6) cylinder sedan costing \$26,000 and traveling the same distance.

Subject to fit for task requirements, the City has replaced sedans that are used for commuting and day tasks, with utilities that are exempt from FBT. Subject to the value of the vehicle and distance travelled, FBT savings of approximately \$2,500 per vehicle have been achieved.

5. *Current and future vehicle alternatives such as Hybrid and hydrogen vehicles*

*Hybrid Fuel Vehicles – How They Work*

Hybrid electric vehicles combine the internal combustion engine of a conventional vehicle with the battery and electric motor of an electric vehicle, resulting in up to twice the fuel economy of conventional vehicles in certain operational environments such as frequent stop-start use. The petrol engine and the vehicles rolling motion, charge the main drive battery. No outside electricity sources are required to charge the drive battery.

Electric drive makes regenerative braking possible, allowing at least some of the kinetic energy usually lost during stop-start urban driving to be transferred to the storage battery. Also, the petrol engine in hybrid vehicles can be smaller than that in the equivalent conventional car and is designed for optimum operation to improve energy efficiency.

A hybrid vehicle is primarily designed for city driving so that its engineering and design strategies can be optimized, resulting in extremely low fuel consumption and excellent performance. It works by the computer switching off the petrol engine when not required. The drive battery is also recharged during decelerating or when surplus power is available from the petrol engine.

Whilst there is little doubt that the Hybrid vehicles are very fuel-efficient and have low levels of exhaust emissions, some questions exist on the environmental aspects of producing and disposing of the large batteries, common in Hybrid vehicles. Although the manufacturers claim that the old batteries can be recycled, little information exists on the method of recycling or on the residual contaminants from disposal.

Hybrid vehicles also have a high plastic content in order to keep operating weight to a minimum. The production of these additional plastic components and future recycling and disposal, could lead to potential pollution issues.

It is envisaged that in the not too distant future, vehicles will receive an environmental rating that is not only based on fuel consumption, but also evaluates the energy & environmental issues with the total construction and disposal of the vehicle.

At present the two most dominant hybrid vehicles in the Australian market are the Toyota Prius and the Honda Civic Hybrid.

### *Toyota Prius*

The Toyota Prius series two is currently priced on the WA State Government vehicle contract 012A 1994, at around \$33,000 without GST. It is better equipped and much more powerful than the first series. The 1.5 litre 4 cylinder petrol engine produces 57kW and the electric motor can produce 50kW. Running in parallel the petrol engine and electric motor produce 82kW of power.

The electric motor is capable of producing 400Nm of torque between 0 and 1,200 rpm and this high torque gives the Prius exceptional acceleration from a standing start. Fuel consumption is quoted at 4.4 litres/100km. However, this figure can vary substantially depending on the load in the vehicle, road conditions, and amount of stop/start driving and driver technique. Further operational testing is required to ascertain the exact fuel consumption for the City of Joondalup requirements. Routine servicing cost is similar to that of a conventional vehicle however the drive battery costs \$4,900 to replace. The battery is covered under warranty for 5 years & has an expected life of 10 years.

### *Honda Civic Hybrid*

Honda's Civic Hybrid is similarly technically advanced, but is priced \$5,000 below the Toyota and is not offered on the State Government vehicle contract. Its petrol engine is a 1.3 litre four (4) cylinder, producing 63kW of power. Combined with the electric motor the power plant produces 69kW, compared to 82kW in the Prius. The Civic's ultra thin electric motor is not as powerful as that in the Prius and the Civic peak torque is only 147Nm at 2,000rpm, compared to 400Nm between 0 and 1200 rpm for the Prius.

Fuel consumption is quoted at 5.2 litres/100km. However, this figure can vary substantially depending on the load in the vehicle, road conditions, and amount of stop/start driving and driver technique.

Routine servicing cost is similar to that of a conventional vehicle however the drive battery costs \$1,800 to replace. The battery is covered under warranty for seven (7) years and has an expected life of 10 years.

### ***Hybrid Vehicles for the City of Joondalup***

The purchase of two (2) hybrid vehicles will provide the City of Joondalup with specific operational data to confirm the fuel efficiency and the appropriateness for further purchases. Each ULP vehicle in the City's fleet travels on average approximately 16,044 kilometres per year. Based on a fuel efficiency calculations quoted from manufacturers and the average distance travelled the City can expect to reduce the fuel costs associated by over \$2,000 per vehicle per year whilst reducing greenhouse gas emissions by approximately 12 tonnes per year. Budget approval for the purchase of two (2) hybrid vehicles was granted for the 2005-6 financial year and tender documentation is being prepared.

### ***Best Practice in the Department of Planning and Infrastructure (DPI)***

The DPI owns and operates 20 Toyota Prius hybrid fuel vehicles and it has a policy that new vehicle fleet items purchased must be four (4) cylinders, unless the vehicle needs to be six (6) cylinders for operational purposes, in which case the vehicle has to be fuelled by LPG rather than petrol.

The DPI also uses BP Ultimate petrol for its vehicle fleet. Every time a BP Plus Card customer buys BP Ultimate, BP invests 1-2 cents per litre in a range of independently audited environmental projects which offset cars' greenhouse gas emissions.

The properties of BP Ultimate unleaded have been designed to reduce vehicle emissions. In addition, the greatly enhanced cleaning power of the fuel removes carbon deposits from key parts of the engine, which allows the engine to work more efficiently.

BP Ultimate also has ten times less sulphur and one fifth of the benzene levels specified by the Fuel Quality Standards Act of 2000 Petrol Determination of 2001 for regular unleaded. Lower sulphur not only reduces emissions of sulphur compounds but also improves the efficiency of catalytic converters to help reduce carbon monoxide, hydrocarbons and oxides of nitrogen and can increase catalyst life.

If all vehicles in Australia switched to BP Ultimate, in tested conditions, it would be the equivalent to taking 500,000 cars off the road. This is the same as taking all the cars out of a city the size of Adelaide.

*Best Practice in the City of Perth*

The City of Perth conducted extensive financial monitoring after purchasing two Prius vehicles. The results, compared to a Toyota Corolla, are summarised below.

**FIGURE 4: OPERATIONAL DATA FROM THE CITY OF PERTH.**

Comparison Particulars	Toyota Corolla	Toyota Prius	Remarks
Purchase Price	\$19,000	\$35,615	Govt pricing
Resale value	\$15,000	\$25,000	Vehicles are held for 2 years
Cost of ownership per annum	\$2,000	\$5,307	Includes capital cost and running expense per annum
Average fuel expense per annum	\$2,023 14L/100 km*)	\$867 6 L/100 km)	Calculation based on 17,000 km per annum at \$0.85 per litre
Total Ownership plus running costs per annum	\$4,023	\$6,174	\$2,151 Cost per year extra for Prius

\* Advice from the CoJ technical staff indicates that this figure should be considered excessive.

The City of Perth recently purchased two (2) Honda Civic hybrid vehicles in preference to the Toyota Prius, due mainly to it being a lower purchase price by over \$5,000, more leg room and better visibility in the rear. The cars are used for the Cities parking inspectoral rounds working two (2) shifts and are promoted as ‘Ultra Low Emissions Vehicles’ as shown in Attachment 3. The City of Perth has not yet been able to quantify the resale value of the Honda Civic.

*Hydrogen Vehicles – How They Work*

The cars run entirely on electric motors, receiving energy from compressed hydrogen that's sent through a fuel cell. Using a catalyst, hydrogen and oxygen interact in the cell and generate electricity, creating water as a byproduct.

Fuel cells have the potential to replace the internal combustion engine in vehicles and provide power for stationary and portable power applications. They can be used in transportation applications, such as powering automobiles, buses, cycles, and other vehicles. Many portable devices can be powered by fuel cells, such as laptop computers and cell phones. They can also be used for stationary applications, such as providing electricity to power homes and businesses.

Fuel cells are cleaner and more efficient than traditional combustion-based engines and power plants. When pure hydrogen is used to power a fuel cell, the only by-products are water and heat—no pollutants or greenhouse gases are produced.

Since fuel cell technology is more efficient than combustion-based technologies, less energy is needed to provide the same amount of power. Finally, because hydrogen can be produced using a wide variety of resources including natural gas, biological material, and even water, the use of hydrogen fuel cells will reduce the worlds' dependence on oil.

Although the potential of fuel cells is significant, many challenges, technical and the provision of suitable infrastructure, must be overcome before fuel cells will be a successful, competitive alternative for consumers. These include cost, durability, fuel storage and delivery issues, and public acceptance. It is considered that the use of hydrogen fuel cells in vehicles will not be commercially viable until approximately 2015.

## 6. Reducing Greenhouse Gas Emissions

The City of Joondalup can reduce the greenhouse gas emissions by implementing initiatives contained within the Greener Motoring Guide associated with fuel reduction and driver education. This may also be achieved through implementation of alternative fuel technologies such as LPG following a cost benefit analysis of such an initiative.

### *Sequestering Carbon Emissions by Tree Planting*

As carbon dioxide is a significant greenhouse gas produced in the operation of vehicles, planting trees, which absorb this carbon into biomass, can offset and reduce its impact on global warming. Organisations such as Men of the Trees and Greenfleet can for a fee provide the planting, maintenance (including watering) and reporting of carbon sequestration. Men of the Trees was established in Western Australia in 1979 and carries out programs to benefit the community and environment and has now planted over seven (7) million trees in area such as the salt affected wheat belt.

Greenfleet is a non-profit organisation based in Victoria. It was established in 1997 after a 1996 Bureau of Transport and Economics report showed that planting trees creates a carbon sink to absorb greenhouse gases from motor vehicles. Consequently a tree planting program was developed based on the scientific evidence that 17 mixed tree species will absorb an average car's greenhouse gas (eCO<sub>2</sub>) emissions and provide other ancillary benefits such as mitigation of dry land salinity and soil erosion, improved water quality and increased biodiversity (Australian Greenhouse Office). To date Greenfleet has planted over 1.5 million trees across Australia. Greenfleet has also indicated they would like to work with the City of Joondalup in promotional activities targeted at the wider community. If feasible, Greenfleet can start planting in the Joondalup area so that benefits could be aligned with the local community as well as gain community involvement. To offset vehicle carbon emissions would cost the City approximately \$40 per vehicle, using the services of Greenfleet or Men of The Trees (see Attachment 4).

A number of businesses and local councils are participating in the Men of the Trees Carbon Neutral program, in which trees are planted purely for the purpose of sequestering carbon emissions.

Since the program began in 2002 more than 45 private and government organisations have joined the program. Some of these companies are listed below with the corresponding numbers of trees they have planted since they joined the program.

<b>Company</b>	<b>No. Trees Planted to Sequester Carbon</b>
City of Belmont	3055
City of Mandurah	4974
City of Nedlands	1761
City of Perth	2163
City of Stirling	15080
Curtin University of Technology	160
Department of Environment	2616
Eastern Metropolitan Regional Council	750
Peel Development Commission	284
RAC	19823
South Metropolitan Regional Council	434
Town of Cottesloe	1111
Town of East Fremantle	901
Town of Victoria Park	1128
University of Western Australia	1125
Water Corporation	48000

In 2004/05 the City planted 20,000 tube stock coastal shrubs, 12,000 13 litre bagged trees, and 8,000 150mm pot shrubs or groundcover plants. The purpose of this planting was predominantly for land care/conservation purposes rather than for sequestering carbon from vehicle fleet emissions. The 12,000 trees that were planted would alone abate 2,730 tonnes of CO<sup>2</sup> emissions, however this does not count as ‘carbon sequestration’ because the trees were not planted for this purpose. It should be noted that even though the City plants 12,000 trees per annum, of those it is estimated that in the first year 20 % do not survive and in the second year a further 10% fail due to weather conditions and other factors. Furthermore it is only after five years of growth when a tree is semi mature that sequestration can begin to be applied and benefits calculated.

**Link to Strategic Plan:**

The operation of corporate vehicles that adheres to best practice sustainability principles links to the City’s strategic plan as follows:

<b>Outcome</b>	<b>Objective</b>	<b>Strategy</b>
The City of Joondalup is a safe and healthy City.	1.4 To work with the community to enhance safety and security in a healthy environment.	1.4.2 Contribute to the protection of human health.
The City of Joondalup is environmentally responsible in its activities.	2.1 To plan and manage our natural resources to ensure environmental sustainability.	2.1.2 Further develop environmentally effective and energy-efficient programs.
The City of Joondalup provides quality value-adding services.	4.2 To provide quality services with the best use of resources.	4.2.3 Further develop a range of services that are proactive, innovative and best practice to meet organisational requirements.

**Legislation – Statutory Provisions:**

Not applicable.

**Risk Management considerations:**Ethical Risks

It is widely accepted within the scientific community and elsewhere that global warming contribution from vehicles is significant. Global warming is likely to cause a significant climatic change over the next 50 to 100 years with estimates of the average temperature rise globally of between 1 and 6 degrees Celsius. This will have a dramatic effect on the Western Australian environment and the people that occupy it. Improving the efficiency of the vehicle fleet at the City will help reduce the greenhouse gas emissions and consequently the severity of any future global warming trends.

Financial Management Risks

The resale value of hybrid vehicles is uncertain because the technologies may become obsolete thus making the asset difficult to dispose. Currently there are no depreciation rates for hybrid vehicles due to their minimal representation in the vehicle fleet market. This provides some uncertainty to the potential financial implications.

**Financial/Budget Implications:**

Financial implications will be determined following cost benefit analysis of conversion of vehicles to LPG where appropriate.

The incorporation of the Australasian Fleet Managers Association 'Greener Motoring – The How to Guide' into Council policy is likely to have a significant financial/budget implications.

The purchase of four (4) cylinder vehicles instead of six (6) cylinder vehicles wherever possible will reduce costs associated with the purchase and ongoing running costs of the vehicle.

The purchase of hybrid vehicles has been estimated at \$56,000 for the purchase of two (2) hybrid vehicles to replace two conventional vehicles of similar size that are predominately used in high use stop/start conditions.

It should be noted that Council approved a budget in the 2005-6 financial year for the purchase of two (2) hybrid vehicles. Tender documentation will be advertised following acceptance of this report.

**Policy implications:**

Nil

**Regional Significance:**

The investigations into alternative fuel sources such as ethanol and bio-diesel will likely require a regional approach and should be taken up at regional and state level. At its 29 September 2005 meeting the Local Government Association ‘North Metropolitan Zone’ resolved for a study group to investigate the possibility of converting waste plastics and oil to low sulphur biodiesel fuel; and to examine the potential costs/benefits that may be available from lower fuel excise and from grants, for new initiatives in producing alternative energy. Consistent with this is the recommendation in this report that Council:

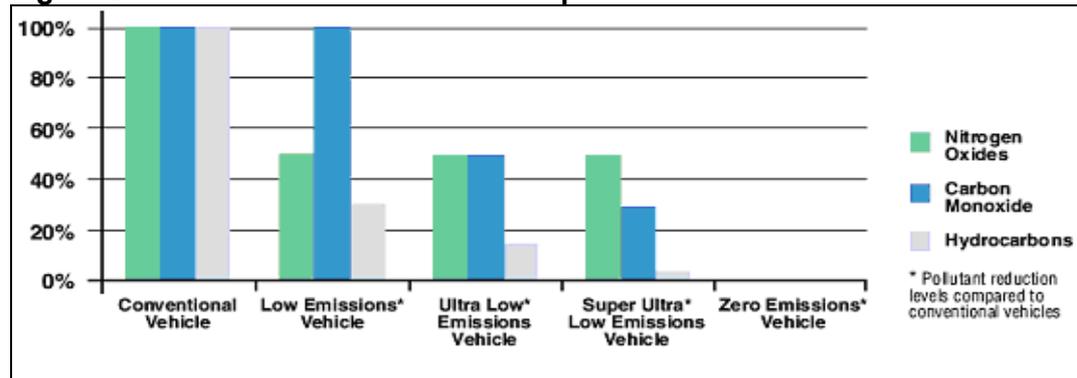
*“NOTES that the City will participate with the Western Australian Local Government Association (WALGA) proposal to investigate options for using alternative fuel supplies not limited to but including bio-diesel and ethanol”*

**Sustainability implications:**

Environmental Sustainability

The acquisition of hybrid vehicles would validate the City of Joondalup’s position on environmental initiatives. It would also demonstrate its commitment to the Cities for Climate Protection Program and its commitment to reduce greenhouse gas emissions. In summary the hybrid vehicle provides significant reductions in harmful emissions and greenhouse gases relative to standard combustion engines.

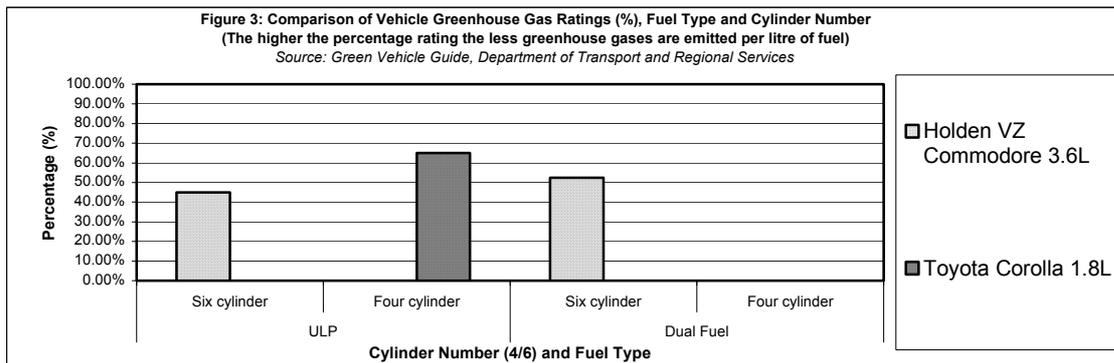
**Figure 2: Indicative emissions comparisons from alternative vehicle categories.**



*The Toyota Prius is considered an Ultra Low Emissions Vehicle.*

Amendments to Council procedures to ensure that four (4) cylinder vehicles are purchased following a ‘fit for purpose’ evaluation, would provide significant potential environmental savings, particularly in relation to greenhouse gas emissions see figure (3). Figure 3 provides a comparison of the greenhouse gas rating between four (4) cylinder and six (6) cylinder vehicles that the City currently uses based on data from the Green Vehicle Guide, Department of Transport and Regional Services). This guide provides data on the amount of greenhouse gas emissions produced per litre of fuel consumed and indicates that four (4) cylinder vehicles produce the least greenhouse gases.

It also indicates that as six (6) cylinder dual fuel ULP/LPG) vehicle produces less greenhouse gas emissions than a vehicle with a dedicated ULP fuel source see Figure (3).



**Economic Sustainability**

Best practice vehicle fleet management can provide improved efficiencies and potential financial savings. The use of four (4) cylinder vehicles in preference to six (6) cylinder vehicles provides significant economic savings, particularly in relation to fuel usage.

Hybrid petrol-electric vehicles use conventional petrol fuel, but are more economical in consumption operating terms because it uses a smaller engine that converts some of its energy to electric power for acceleration. Hybrid diesel-electric cars, currently being developed, may be even more economical. Hybrid diesel-electric trains have been used for many years. Electric power can be utilised successfully for commuting and recent developments in hybrid petrol-electric technologies indicate that hybrid vehicles are becoming increasingly viable.

**Social Sustainability**

The primary social benefit of incorporating a best practice vehicle fleet management framework, such as the Australasian Fleet Managers Association ‘Greener Motoring How to Guide’, is that it can have the potential for reducing air pollution and associated health impacts, climate change, and dependency on foreign oil.

The City of Joondalup can lead by example by incorporating a best practice vehicle fleet management framework. In doing so the City can reinforce its strategic vision of becoming a “sustainable City and community that are recognised as innovative, unique and diverse”.

**Consultation:**

This report was compiled with input from members nominated by the Sustainability Advisory Committee.

**COMMENT**

Vehicle fleets represent a major capital expenditure. The use of fleet vehicles should be kept under constant review given the changing impact of vehicle design and fuels on the environment. The City would benefit by providing annual review reports to Council on the efficiency and effectiveness of its fleet and advice of changing trends. Reviewing and optimising the effectiveness of fleet vehicles can achieve both environmental and financial benefits.

A multi criterion evaluation for vehicle selection is required when reviewing the City of Joondalup's fleet. The most fuel-efficient vehicles for the job should be purchased whilst considerations should be also given to greenhouse gas emissions. The City's evaluation for the vehicles is based on whole life costing in order to ensure the most cost efficient and environmentally acceptable vehicle is purchased.

Careful evaluation should be given to the petrol/diesel option. The choice of diesel vehicles has usually been based on cost and fuel efficiency. Diesel produces particulate emissions that can affect the air quality in urban areas; therefore consideration should also be given to trialling new cleaner and greener technologies as they become available such as hybrid vehicles.

The use and selection of fleet vehicles is should continue to be kept under constant review given the changing impact of vehicle design and fuels on the environment.

Carbon sequestration is being utilised by many councils to reduce their greenhouse gas emissions and it is recommended that Council investigate this option further.

## **ATTACHMENTS**

- Attachment 1: Australasian Fleet Managers Association 'Greener Motoring – The How to Guide' (contents extract only). A full copy can be downloaded from <http://www.epa.gov.au/greenvehicles/>
- Attachment 2: Presentations of Best Practice Vehicle Fleet Management by the Australasian Fleet Motoring Association
- Attachment 3: Image of promotions of City of Perth Hybrid Vehicles
- Attachment 4: Details of the Men of the Trees Carbon Neutral Program

## **VOTING REQUIREMENTS**

Simple majority.

## **OFFICER'S RECOMMENDATION**

That the Sustainability Advisory Committee ENDORSE the proposal that Council:

1. NOTES the report on best practice considerations for a sustainable vehicle fleet at the City of Joondalup.
2. ENDORSES the incorporation of the Australian Fleet Managers Association 'Greener Motoring – The How to Guide' to be utilised in conjunction with City vehicle management procedures
3. NOTES the purchase of two (2) hybrid vehicles will occur in 2005/06 and will replace two conventional vehicles of similar size that are predominately used in high use stop/start conditions for trialing purpose;
4. NOTES that the City will participate with the Western Australian Local Government Association (WALGA) proposal to investigate options for using alternative fuel supplies not limited to but including bio-diesel and ethanol;

5. NOTES that the City has an extensive annual tree-planting program for operational purposes which may be capable of being recognised for carbon sequestration purposes; and
- 6 NOTES that the City will further investigate options for participating in a carbon sequestration program.

**MOVED Mr Magyar SECONDED Professor Kinnear that the Sustainability Advisory Committee:**

1. **ENDORSES the proposal that Council:**
  - (a) NOTES the report on best practice considerations for a sustainable vehicle fleet at the City of Joondalup.
  - (b) **ENDORSES** the incorporation of the Australian Fleet Managers Association 'Greener Motoring – The How to Guide' to be utilised in conjunction with City vehicle management procedures
  - (c) NOTES the purchase of two (2) hybrid vehicles will occur in 2005/06 and will replace two conventional vehicles of similar size that are predominately used in high use stop/start conditions for trialing purpose;
  - (d) NOTES that the City will participate with the Western Australian Local Government Association (WALGA) proposal to investigate options for using alternative fuel supplies not limited to but including bio-diesel and ethanol;
  - (e) NOTES that the City has an extensive annual tree-planting program for operational purposes which may be capable of being recognised for carbon sequestration purposes; and
  - (f) NOTES that the City will further investigate options for participating in a carbon sequestration program.
2. **REQUESTS that Council THANK all staff and Sustainability Advisory Committee members involved in preparing the report.**
3. **REQUESTS Council to ENDORSE that the Sustainability Advisory Committee be briefed on the progress to date of the Cities for Climate Protection Project and the Green Transport Plan.**

Discussion ensued regarding the various measures used to indicate greenhouse gas emissions and the use of bio-diesel as a viable fuel alternative.

**The Motion was Put and**

**CARRIED (7/0)**

**In favour of the Motion:** Ms Marilyn Horgan, Mr Steve Magyar, Ms Ute Goeft, Mr Martin Brueckner, Dr Vincent Cusack, Mr Kieron D'Arcy, Cmr Michael Anderson.

**Against the Motion:** Nil

**ITEM 3 SUSTAINABILITY POLICIES****WARD: All****PURPOSE**

To provide the Sustainability Advisory Committee with the following:

- Discussion Paper on Sustainability;
- Draft Council Policy committing all Council Policies to sustainability outcomes; and
- ADOPTED City Sustainability Policy 5-4.

**EXECUTIVE SUMMARY**

Council at its meeting 2 November 2004 received a report on the minutes of the Sustainability Advisory Committee meeting held on 14 October 2004 and resolved inter alia to: -

*“NOTE that the Sustainability Advisory Committee wishes to develop a statement of principle, which commits all policy of Council to sustainability objectives as is expressed in the City’s Strategic Plan 2003 – 2008 and requested the Committee to wait until after the Council’s Policy workshop before starting this work”*

Council established a Policy Committee at the meeting of 26 April 2005 (refer CJO64 – 04/05). Council endorsed the following terms of reference for the Policy Committee:

- (a) *To make recommendations to Council on the development and review of strategic (Council) policies to identify the direction of the Council;*
- (b) *To Initiate and formulate strategic (Council) policies;*
- (c) *To devise and oversee the method of development (level and manner of community consultation) for the development of strategic (Council) policies;*
- (d) *To review the Council Policy Governance Framework in order to ensure compliance with provisions of the Local Government Act 1995.*

All policies of Council have since been categorised as ‘Council’ or ‘City’ Policies according to the Policy Governance Framework endorsed by the Council on 26 April 2005 (refer CJO64 – 04/05).

The Policy Committee has been established to oversee the review and development of Council Policies which are defined in the framework as *“strategic policies that set governing principles and guide the direction of the organisation to align with community values and aspirations. These policies have a strategic external focus and align with the Mission, Vision and Strategic Directions.”*

The Council has referred all Council Policies to the Policy Committee for review and further development. Those policies categorised as ‘Council’ Policies are:

- 1-1 Leisure
- 1-2 Public Participation
- 2-1 Environmental Sustainability
- 3-1 Child Care Centres

- 3-2 Height and Scale of Buildings within Residential Areas
- 3-3 Centres Strategy
- 4-1 Code of Conduct
- 4-2 Setting Fees and Charges

Council further identified a number of gaps in Council Policies and these matters were also referred to the Policy Committee for consideration, those being:

- Financial Planning – Strategic Matters
- Economic Development
- Service Delivery (range/scope/role)
- Community Development; (include leisure, cultural development etc)

On 18 October 2005 the Policy Committee determined:

*That the following Council Policies are to be drafted in the following order of priority:*

- (a) *Policy 3-2 – Height and Scale of Buildings within Residential Areas;*
- (b) *Sustainability;*
- (c) *Financial Planning – Strategic Matters;*
- (d) *Economic Development;*
- (e) *Service provision;*
- (f) *Community Development;*
- (g) *Public Participation.*

*A draft policy be presented to the Policy Committee on Policy 3-2 – Height and Scale of Buildings within Residential Areas that includes coastal areas and is based on the expectation that full public participation is undertaken.*

On 29 November 2005 the Policy Committee received a report on sustainability policies and reviewed:

- A Discussion Paper on sustainability;
- A Draft Council Sustainability Policy, and
- A Draft City Sustainability Policy.

On 13 December 2005 Council received the report (CJ269 – 12/05 refers) on sustainability policies and resolved to

1. *REFER the Draft Council Policy on Sustainability to the Sustainability Advisory Committee for review and comment;*
2. *BY AN ABSOLUTE MAJORITY, DELETED the Environmental Sustainability Policy 2-1 and ADOPTED the City Sustainability Policy 5-4 shown as Attachment 3 to Report CJ269-12/05;*
3. *REFER the City Sustainability Policy 5-4 to the Sustainability Advisory Committee for information.*

***This report recommends that the Sustainability Advisory Committee:***

1. ***REVIEW and provide comment on the draft Council Policy - Sustainability as shown as attachment 2 to this report;***
2. ***NOTE the City Sustainability Policy 5-4 as shown as attachment 3 to this report.***

## BACKGROUND

The City's Public Participation Policy 2.6.3 was created in 1999. The Council gave consideration to replacing this policy 2.6.3 with an alternative Community Consultation Policy in February 2004; however, their decision was to retain the current policy.

The Sustainability Advisory Committee at its meeting on 14 October 2005 was presented with a report that recommended the committee review and provide comment on the Public Participation Policy 2.6.3 in order that improvements could be recommended to the Council during the 2004/5 Annual Policy Review process.

The Sustainability Advisory Committee made the following comments with respect to the report as reflected in the minutes of their meeting:-

*Mr Magyar commented that in relation to any statement of the policy's aim should relate to the Local Government Act 1995 and is best developed with the community and Council.*

*Cmr Anderson advised the Committee that the review of the PPP 2.6.3 would be the first of several policies to come before the Committee.*

*Ms Kinnear explained to the Committee that there is a need to determine what the Committee wants from the policy (PPP 2.6.3) in regards to sustainability. Ms Kinnear expressed a view that the Committee should develop questions relating to general principles and a rationale for sustainability assessment during the review process.*

*Ms Siggers asked the Committee to consider the rationale behind why the Committee is seeking to review the PPP 2.6.3 and questioned if this is/could be identified in the PPP 2.6.3.*

*Cmr Anderson suggested that a workshop be conducted to develop a statement of principle for sustainability/statement of intent that can be used to review future policy review.*

The Committee resolved to recommend to Council that:

*"The Sustainability Advisory Committee develop a statement of principle which commits all policy of Council to sustainability objectives as is expressed in the City's Strategic Plan 2003 – 2008."*

Council at its meeting 2 November 2004 received a report on the minutes of the Sustainability Advisory Committee meeting held on 14 October 2004 and Council resolved inter alia to:

*"NOTE that the Sustainability Advisory Committee wishes to develop a statement of principle, which commits all policy of Council to sustainability objectives as is expressed in the City's Strategic Plan 2003 – 2008 and requested the Committee to wait until after the Council's Policy workshop before starting this work"*

Council established a Policy Committee at the meeting of 26 April 2005 (refer CJO64 – 04/05). Council endorsed the following terms of reference for the Policy Committee:

- (a) *To make recommendations to Council on the development and review of strategic (Council) policies to identify the direction of the Council;*
- (b) *To Initiate and formulate strategic (Council) policies;*

- (c) *To devise and oversee the method of development (level and manner of community consultation) for the development of strategic (Council) policies;*
- (d) *To review the Council Policy Governance Framework in order to ensure compliance with provisions of the Local Government Act 1995.*

The report to the Council Meeting of 26 April 2005 recommended a new framework for the development and review of policies at the City of Joondalup consisting of two distinct sets of policies:

- 1 *Council Policies* - strategic policies that set governing principles and guide the direction of the organisation to align with community values and aspirations. These policies have a strategic external focus and align with the Mission, Vision and Strategic Directions.
- 2 *City Policies* - policies that are developed for administrative and operational imperatives and have an internal focus.

The Policy Framework was endorsed by the Council and in accordance with that framework, Council policies are to be developed and reviewed by the Policy Committee and may be subject to community consultation processes in recognition of the community leadership role Council has in guiding the formation and development of the City, and in representing the values and interests of the broader community.

City policies will be drafted by officers for Council consideration and these policies will still require Council endorsement however this will occur as part of the normal Council meeting cycle. Council may direct that some or all City Policies be advertised for public comment prior to endorsement. In the case of Local Planning Policies it is a statutory requirement that draft policies are to be advertised, and that public submissions are to be considered prior to adoption of the policy.

In order to progress the Policy Framework and to facilitate the work of the Policy Committee in the development and review of Council Policies a detailed review of the Policy Manual was undertaken and a number of changes were made to those policies categorised as City Policies. The Council endorsed the revised Policy Manual on 11 October 2005 (*refer CJ206-10/05*).

Council Policies, other than their categorisation, were not reviewed, but were referred, by the Council, to the Policy Committee for review and further development.

The Council endorsed the following policies as Council Policies:

- 1-1 Leisure
- 1-2 Public Participation
- 2-1 Environmental Sustainability
- 3-1 Child Care Centres
- 3-2 Height and Scale of Buildings within Residential Areas
- 3-3 Centres Strategy
- 4-1 Code of Conduct
- 4-2 Setting Fees and Charges

The Council further identified the following gaps in Council Policies for consideration by the Policy Committee:

- Financial Planning – Strategic Matters
- Economic Development
- Service Delivery (range/scope/role)
- Community Development; (include leisure, cultural development etc)

At the Policy Committee Meeting of 18 October 2005 the following changes were suggested:

- A more appropriate title for 'Setting of Fees and Charges' is 'Pricing Policy';
- 'Service Delivery' to become 'Service Provision' to better reflect the different roles of the City in providing services to the community; and
- 'Financial Planning – Strategic Matters' to become 'Stewardship of Financial Resources'.

On 18 October 2005 the Policy Committee determined:

That the following Council Policies are to be drafted in the following order of priority:

- (a) Policy 3-2 – Height and Scale of Buildings within Residential Areas;
- (b) Sustainability;
- (c) Financial Planning – Strategic Matters;
- (d) Economic Development;
- (e) Service provision;
- (f) Community Development;
- (g) Public Participation.

At the Policy Committee meeting of 29 November 2005 a report was provided on a Council Sustainability Policy that commits all policies of the Council to sustainability objectives, and a Draft City Sustainability Policy. Council on 13 December 2005 adopted the City Sustainability Policy and referred the Council Sustainability Policy to the Sustainability Advisory committee for comment.

## **DETAILS**

### **Issues and options considered:**

The Local Government Act 1995 requires that

*In carrying out its functions a local government is to use its best endeavours to meet the needs of current and future generations through an integration of environmental protection, social advancement and economic prosperity.*

The Discussion Paper shown as *Attachment 1* to this report provides a summary of sustainability issues for Local Government and provides a number of definitions and approaches to sustainability from a range of organisations.

In order to align with the Western Australian Government it is suggested that the definition of sustainability contained in the Western Australian State Sustainability Strategy, be adopted by the Council, that being:

*Meeting the needs of current and future generations through integration of environmental protection, social advancement and economic prosperity.*

Following consideration of a number of approaches to sustainability and varying principles adopted by organisations, it is recommended that the set of principles endorsed at the 2002 World Summit of local governments held in Johannesburg which focused on the issues of sustainable development, are used for the Council Policy on Sustainability, those being:

- 1 *The overarching principle of Sustainable Development (integrating the economic, social, cultural and environmental dimensions);*
- 2 *Effective Democratic Participation (with a substantial set of key competencies, and commensurate financial resources);*
- 3 *Good Governance (effective leadership, transparency, accountability, probity, proper management and effective services, equitable access to services, a commitment to partnership working, and institutional capacity building.); and*
- 4 *Co-operation and Solidarity (partnerships for exchange of good practice, support and mutual learning.)*

Further, following consideration of the principles and approaches by a number of organisations to sustainable development, the framework established at the 1992 Rio Conference is suggested for the City Sustainability Policy to guide the development of policies and strategies, those being:

1. Management, planning and development decisions should be based on an integration of economic, environmental and social/cultural considerations;
2. Avoidance of the risk of serious or irreversible environmental damage should not be postponed because of a lack of full, scientific knowledge (the 'precautionary principle');
3. Development of a strong, growing and diversified economy should enhance the capacity to protect the environment;
4. Policy measures should encourage voluntary, cost effective achievement of environmental goals and responses to environmental problems; and
5. Acknowledgment should be made of the need for community consultation and participation in decision making to achieve a cooperative response to environmental, economic and community issues.

#### **Link to Strategic Plan:**

This item has a general connection to the Strategic Plan.

#### **Legislation – Statutory Provisions:**

The Local Government Act 1995 is the legislation under which Local Government bodies are constituted and contains detailed reporting and operational requirements which a Council has a duty to comply with. The Act establishes the framework for the system of local government in Western Australia.

Section 1.3 (2) states that the Act is intended to result in:

- (a) Better decision-making by local government
- (b) Greater community participation in the decisions and affairs of local governments
- (c) Greater accountability of local governments to their communities; and
- (d) More efficient and effective local government.

The degree to which this is achieved is dependant on the processes and practices for planning, and policy development.

Part 3 of the Act outlines the functions of local governments:

Section 3.1 - A *general function* to provide for good government

Section 3.4 - A *legislative function* to make local laws, and

Section 3.8 - An *executive function* to provide services and facilities.

The separation of powers and duties in relation to the Council and the Chief Executive Officers as detailed in the Local Government Act 1995 are:

Under the Act (Section 2.7) the role of the Council is to:

- (a) Direct and controls the local government's affairs;
- (b) Be responsible for the performance of the local government's functions;
- (c) Oversee the allocation of the local government's finances and resources; and
- (d) Determine the local governments policies.

The Local Government Act amendments of 2004-05 requires that local government consider sustainability as a core component of its decision making function.

Section 1.3 states:

*In carrying out its functions a local government is to use its best endeavours to meet the needs of current and future generations through an integration of environmental protection, social advancement and economic prosperity*

### **Risk Management considerations:**

Policy development is central to good governance. Good governance is about formalising and making clear and consistent the decision-making processes in the organisation. The framework proposed in this report will help facilitate decision-making and appropriate delegation of accountability and responsibility within and outside the organisation and ensure that the varying needs of the stakeholders are appropriately balanced; that decisions are made in a rational, informed and transparent fashion; and that those decisions contribute to the overall efficiency and effectiveness of the organisation.

Local Government operates under State legislation and Council is responsible for controlling the functions of the local government through its decision-making and policy development role.

The distinction between policy matters and procedural matters is central to the role of Council and the role of the CEO, and to the administration of local government. The new Policy Framework will assist Council to concentrate on policy matters rather than procedural issues, and for the CEO to provide advice to the Council and implement the decisions of Council.

**Policy implications:**

The report provides a draft Council and City Sustainability Policies. The current Environmental Sustainability Policy 2-1 will no longer be required with the adoption of the Council Sustainability Policy and the City Sustainability Policy.

**Regional Significance:**

The Council Policy committing all Council Policies to sustainability principles and outcomes includes a reference to the importance of regional considerations through cooperation and partnerships.

**Sustainability implications:**

The review and development of policies will align with the strategic directions established by Council and outlined in the Strategic Plan 2003 – 2008. Council's vision is to be '*A sustainable City and community that are recognised as innovative, unique and diverse*'. The Strategic Plan determines the long-term orientation of the Council and was developed in consultation with the community. The Plan was designed to reflect the themes of economic, social and environmental sustainability as well as good governance.

The policies of Council (Council and City policies) support the achievement of the Strategic Plan and state Council's position on social, environmental, and economic matters as well as governance issues.

The policy positions of Council attempts to balance the social, environmental and economic interests of the City, and the review of policies of the Council will ensure that social, economic, and environmental changes are reflected in policy statements and objectives.

**Consultation:**

One of the most important roles Council has is to participate in making policy and decisions on behalf of the community. An essential part of policy making is identifying community needs, setting objectives to meet those needs, establishing priorities between competing demands and allocating resources.

The City of Joondalup values effective consultation in developing a positive relationship with its community; recognising that community input can assist in policy and decision making processes. Council also recognises the right of the community to be informed and influence decisions that affect their lives. As a result of this commitment Council has endorsed a Policy Framework that supports Council (major) policies being devised in consultation with the community.

The framework is intended to ensure that Council is in touch with the community and that the major policy decisions accurately reflect the views and aspirations of the community.

**COMMENT**

Increasing the social, economic and environmental capital of the City of Joondalup is the Council's core business. Local government is uniquely placed to take a leadership role in facilitating sustainable development. Local Government has always been required to be highly responsive and to deal with economic, social and environmental issues at the coalface by providing the services necessary to support the community.

While local government is well positioned to tackle sustainability issues the reality is that it is not an easy task. There are a number of different approaches adopted by organisations and there is no standard guide. However, despite the difficulties and the absence of a standard guide, there are clearly a number of actions that a Council must take if sustainability is to become a part of normal business.

The Draft Council Sustainability Policy committing all Council Policies to sustainability principles and outcomes (*Attachment 2*) and the Draft City Sustainability Policy (*Attachment 3*), along with the Discussion Paper (*Attachment 1*) provides a framework for the Council to:

- Clarify its sustainability values;
- Identify how its business impacts on sustainability; and
- Establish how it can best make a contribution toward a more sustainable world.

## ATTACHMENTS

Attachment 1: Discussion Paper - Sustainability

Attachment 2: Draft Council Policy – Sustainability

Attachment 3: Draft City Policy – Sustainability

## VOTING REQUIREMENTS

Absolute Majority

## OFFICER'S RECOMMENDATION

That the Sustainability Advisory Committee:

1. REVIEW and provide comment on the draft Council Policy - Sustainability as shown as attachment 2 to the report;
2. NOTE the City Sustainability Policy 5-4 as shown as attachment 3 to the report.

The Committee was advised of an error within the report that incorrectly omitted the following point from the draft Council Sustainability Policy – “An understanding of the effects that local activities have on the community, the nation and the world”.

Discussion ensued on why the City of Joondalup has both City policies and Council policies. It was advised that Council policies are broad over-arching strategic policies that set governing principles. City policy is developed for administration and operational purposes.

Discussion ensued on the statement of intent and whether wording of Local Government Act should be included.

**MOVED Mr Magyar SECONDED Cmr Anderson that the Sustainability Advisory Committee RECOMMENDS that Council:**

- 1. ADOPTS the Council Sustainability Policy as amended and outlined in the attached document;**
- 2. CONSIDERS changing the titles of the City and Council policy documents to Council Strategic Policy and City Operational Policy retrospectively.**

**The Motion was Put and**

**CARRIED (7/0)**

**In favour of the Motion:** Ms Marilyn Horgan, Mr Steve Magyar, Ms Ute Goeft, Mr Martin Brueckner, Dr Vincent Cusack, Mr Kieron D'Arcy, Cmr Michael Anderson.

**Against the Motion:** Nil

**MOVED Mr Magyar SECONDED Dr Cusack that the Sustainability Advisory Committee DEFERS consideration of the City Sustainability policy until its next meeting to be held on 9 March 2006.**

**The Motion was Put and**

**CARRIED (7/0)**

**In favour of the Motion:** Ms Marilyn Horgan, Mr Steve Magyar, Ms Ute Goeft, Mr Martin Brueckner, Dr Vincent Cusack, Mr Kieron D'Arcy, Cmr Michael Anderson.

**Against the Motion:** Nil

## **REQUEST FOR REPORT FOR FUTURE CONSIDERATION**

- Request for the results of the outcome of the Waste Management Strategy Survey
- Request for the outcome of the Bike Plan
- Request for update on the Sustainability Advisory Committee Workplan October 2004 and what is achievable through integrating the recent Federal Sustainable Cities report

**MOVED Ms Goeft SECONDED Cmr Anderson that the Sustainability Advisory Committee requests these report to be presented to a future meeting of the Sustainability Advisory Committee.**

**The Motion was Put and**

**CARRIED (7/0)**

**In favour of the Motion:** Ms Marilyn Horgan, Mr Steve Magyar, Ms Ute Goeft, Mr Martin Brueckner, Dr Vincent Cusack, Mr Kieron D'Arcy, Cmr Michael Anderson.

**Against the Motion:** Nil

## **CLOSURE**

The Chairperson advised that the next meeting of the Sustainability Advisory Committee will be held in Conference Room 3, Joondalup Civic Centre, Boas Avenue, Joondalup on Thursday 9 March 2006 at 1730 hrs.

There being no further business, the Chairperson declared the meeting closed at 2035hrs.

## ATTACHMENT 2

### COUNCIL STRATEGIC SUSTAINABILITY POLICY – DRAFT

#### OBJECTIVE:

To contribute to a better future for the local and regional communities by embedding sustainability principles into all Council policies.

#### STATEMENT OF INTENT

~~This purpose of this policy is to set a direction that will, over time result in the achievement of outcomes consistent with the principles of sustainability. Council shall put into place measures and policies consistent with the principles of sustainability as adopted by the City of Joondalup.~~

~~It is recognised that a transition period will be necessary that will allow time, not only to make changes to policies and strategies but also to the culture of the organisation. The council is also mindful that in some instances there may be constraints through the need to act within legislation and particular circumstances.~~

~~The contents of and the commitments that Council makes in this policy are not intended to be and should not be interpreted to be any more than a statement of the Council's general position in relation to those matters, and to facilitate its aspirations wherever it is reasonable to do so.~~

#### Policy Statement

In carrying out its functions as a local government the City of Joondalup will use its best endeavours to meet the needs of current and future generations through an integration of environmental protection, social advancement and economic prosperity.<sup>1</sup>

The City Council adopts the following definition of sustainability:

*Meeting the needs of current and future generations through an integration of environmental protection, social advancement, and economic prosperity.*

To achieve this, all Council policies will contain a statement identifying the manner in which the policy contributes to the City's City of Joondalup's sustainability.

~~The following interconnected principles will inform and underpin all council policies:~~  
The following interconnected principles shall be demonstrated explicitly in all council policies:

1. The overarching principle of *Sustainable Development* (integrating the economic, social, cultural and environmental dimensions);
2. *Effective Democratic Participation* (with a substantial set of key competencies, and commensurate financial resources);

---

<sup>1</sup> Local Government Act 1995 S 1.3 (2005)

3. Risk avoidance in accordance with the precautionary principle.

3.4. Good Governance (effective, ethical leadership, transparency, accountability, probity, proper management and effective services, equitable access to services, a commitment to partnership working, and institutional capacity building); and

4.5. Co-operation and Solidarity (partnerships for exchange of good practice, information, support, ~~and~~ mutual learning and the establishment and nurturing of networks).<sup>2</sup>

6. An understanding of the effects that local activities have on the community, the nation and the world.

**Sustainability Sustainability Statement**

This Policy promotes the sustainable social, economic, environmental and cultural wellbeing of the community by requiring all Council Policies to consider sustainability outcomes.

---

Related Documentation:      City Sustainability Policy 5.4.  
   Local Government Act 1995.  
   The Local Government Declaration to the World  
   Summit on Sustainable Development 2002.

---

<sup>2</sup> The Local Government declaration to the World Summit on Sustainable Development. 2002