City of Nedlands

Sustainable Infrastructure Reports

Committee Consideration – 10 April 2012
Council Resolution – 24 April 2012

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SI07.12 City of Nedlands Carbon Inventory and Management Report Baseline Year 2010/2011

Committee	10 April 2012
Council	24 April 2012

Applicant	City of Nedlands
Owner	City of Nedlands
Officer	Phoebe Huigens – Sustainability Officer
Director	Andrew Melville – Acting Director Sustainable Infrastructure
Director Signature	
File ref.	M12/5030
Previous Item No's	D63.11
Disclosure of Interest	No officer involved in the preparation of this report had any interest which required it to be declared in accordance with the provisions of the *Local Government Act (1995).*

Purpose

To endorse the City's Carbon Inventory and Management Report Baseline Year 2010/2011, herein referred to as the Report, as a first step towards creating targets for carbon reduction within the City.

Recommendation to Committee

Council:

1. **Receives the Carbon Inventory and Management Report Baseline Year 2010-2011 as recommended by the Sustainable Nedlands Committee;**

2. **Agrees to publish the Carbon Inventory and Management Report Baseline Year 2010-2011 on the City's website and make it available to the community;**

3. **Endorses the development of a draft Carbon Reduction Strategy and Action Plan for consultation with the community and consideration by Council; and**

4. **Endorses future annual inventories to be prepared and published on the City's website and be made available to the community.**

Strategic Plan

KFA 5: Governance
5.1 Manage the City's resources in a sustainable and responsible manner.

Background

The City of Nedlands joined the Cities for Climate Protection program in 1998, and remained committed to reducing its Greenhouse Gas emissions until the program's federal government funding ceased in 2009. The City then resolved to purchase the Greensense Reporting platform in 2010/2011 to monitor its greenhouse gas emissions. This platform, which is the preferred platform of WALGA, was purchased in January 2011 and has produced data for the 2010/2011 baseline year. The data is contained in the City's Carbon Inventory and Management Report Baseline Year 2010/2011.

Previously Administration presented a draft version of the City's Carbon Inventory and Management Report Baseline Year 2009/2010 in November 2011. Council's decision at this time was to request the baseline year be changed to 2010-2011 as follows:

Council:

1. Receives the Carbon Inventory and Management Report Baseline Year 2009-2010 as recommended by the Sustainable Nedlands Committee; and

2. Commissions the Carbon Inventory process for 2010-2011 to establish a valid baseline year to support the development of an effective Carbon Reduction Strategy and Action Plan.

It was also noted that elected members wished for a reconsideration of those emission sources previously omitted from the 2009/2010 report. In response to this, and some issues we have been experiencing with the current data provider Greensense, it was decided to move to Planet Footprint. Planet Footprint is an independent "environmental scorekeeper', that perform all of the same functions as Greensense, plus added features. Is also has the capability to capture emission sources that Greensense is not able to effectively monitor, such as waste. This is discussed further in the Discussion section.

Proposal Detail

Using the Greensense Reporting Platform, data has been collated for the City for 2010/2011 financial year to present to establish the City's baseline energy use. As a result of Council endorsing the Carbon Inventory and Management Report, Baseline year 2010/2011 the City

can develop reduction targets and actions which will assist the City to reduce carbon emissions over time.

Consultation

Required by legislation: Yes ☐ No ☒

Required by City of Nedlands policy: Yes ☐ No ☒

Consultation type: Sustainable Nedlands Committee Dates: 3/10/11

Comments received:

The Sustainable Nedlands Committee at its meeting held on 3 October 2011 recommended:

That:

1. this report will be submitted to Elected Members following the receipt of the Sustainable Nedlands Committee's recommendations;

2. this report will be published on the City's website to be available to residents;

3. a Carbon Reduction Strategy or Action Plan is developed;

4. future annual inventories will be prepared each year and will be published on the City's website.

Legislation

There has been ongoing debate at Federal government level relating to legislative and taxation changes that may result in increased costs to the City. It is anticipated that the taxation changes will relate directly to carbon emissions.

This report provides a record of how the City generates emissions and identifies areas and methods where they can potentially be reduced. This will provide a mechanism for the City to advise Council on methods to reduce cost implications associated with generating emissions.

Budget/financial implications

Budget: Nil

Within current approved budget: Yes ☒ No ☐

Requires further budget consideration: Yes ☐ No ☒

Financial:

Accepting of the baseline data and endorsing the preparation of an action plan and strategy has no cost as it will be completed with current resources available to the City. Any costs arising from a strategy are subject to future Council decisions.

Risk Management

Accepting of this report will provide increased certainty to Council in terms of the City's generation of carbon emissions. This will reduce risk to any taxation, cost or legislative changes that may impact the City financially and provide an improved capacity to respond and decrease financial exposure to change.

Discussion

The City's Carbon Inventory and Management Report Baseline Year 2010/2011 gives the City a clear picture of the major carbon generating activities from council operations. This information has been broken down and details the areas where Council's generation of emissions are highest. The City's measured footprint was 2504.46 tonnes of carbon dioxide equivalent emissions for the 2010/2011 financial year. This is equivalent to the carbon emissions released from 445 cars being on the road for a year. 42.2% of these emissions were from streetlights, 42.5% were from other electricity use, and the remaining 15.3% from council vehicle emissions and natural gas used in council buildings.

Emissions included in this inventory were from petrol fuel, diesel fuel, LPG, purchased electricity and natural gas. Some emission sources have been excluded from this inventory, either because of their negligible value, given the fact that they are not reportable under the National Greenhouse and Energy Reporting Scheme (NGERS) or due to the current lack of a valid reporting process within the City. If Council chooses, some or all of these may be included in future years. Examples include water use, employee commuting, business travel, paper use, leased buildings and waste. Ease of reporting these sources will increase with the switch from Greensense to Planet Footprint. Some however, may remain excluded due to their negligible contribution to the overall emissions for the City.

Each source omitted from this 2010/2011 report has been discussed in detail below.

Emissions Source	**Reason for excluding**
Refrigerant emissions	Emissions from refrigerators and air conditioners have been excluded since they were considered to be negligible.
LPG cylinders	Emissions from LPG cylinders have been excluded as the City on uses these cylinders for powering the BBQ at the depot, and so have been considered to be negligible.

Employee commuting	Employee commuting has been excluded because it is outside the operational control of the organisation and is not reportable under NGER. To include this, staff surveys to assess commuting habits are required to create an “average week” commuting emissions. This would have to be updated at least twice a year, to account for seasonal changes and staff turnover.
Water use	Water use is not reportable under NGER as it is not considered to be a major source of carbon emissions. Our water use is monitored through the ICLEI program. If this program was to cease, we may monitor water use as part of the carbon inventory
Leased buildings	The City has chosen to exclude emissions associated with buildings that are being leased to other organisations as the City has no operational control over these facilities, and therefore are not reportable under NGER. They can be included in future inventories if the City decides to do so. Planet Footprint can separate leased buildings from others in our reports, so we can see both types if required.
Business travel flights, taxis	Planet Footprint considers business travel to be a negligible contribution to the City’s overall carbon emissions. In addition to this, the City currently has no centralised register of staff business travel, making reporting complex. Such a register will need to include the type of travel, the kilometres travelled and the type of vehicle used for each trip. This should be included in future inventories. Council should weigh up the officer time that would be taken up calculating this, and the value received from including a relatively small amount.
Paper use	Paper is a major use of resources within the City’s operations and should be included in future inventories. There is currently no Australian standard for reporting or recording emissions resulting from paper use. Planet Footprint recommends capturing paper use as part of the City’s waste calculations, rather than listing paper as its own source. The City would need to decide if paper will be recorded by purchase (to capture emissions involved in the production and transport of the paper), and/or paper sent to landfill (to capture emissions involved in the waste. Paper sent to recycling would need to be excluded, as no emissions).
Waste (waste mix)	Waste produced by council operations is classed as Scope 3 as they are not reported under the NGER scheme. Waste being sent to landfill should be included in future inventories, following a “waste produced during council operations” audit. The new Planet Footprint program will be able to calculate our waste more efficiently than the Greensense program.

Waste (street litter bins)	Litter bins have been excluded as reliable data is not yet available for these. Waste being sent to landfill should be included in future inventories, following a “waste from public street litter bins” audit.

The City of Nedlands’ carbon emission total is below the threshold set by the National Greenhouse and Energy Reporting Scheme (NGERS). Therefore the City is not currently required to report to the Department of Climate Change and Energy Efficiency on its emissions. These reporting obligations may change in the future if Government decides to require local governments to report on their emissions.

From this report, the City has the opportunity to follow EPA Victoria’s “Best Practice” In Carbon Management, which would require the City to identify ways to avoid or reduce emissions, switch to less energy-intensive fuel sources, and finally offset the residual emissions. This would require the creation of a carbon reduction plan or strategy to be developed by Council.

This report enables the City to develop future reduction targets and actions, and reduce emissions over time as part of the City’s commitment to climate change. This baseline year can be compared to future years to monitor progress.

Conclusion

The City’s Carbon Inventory and Management Report Baseline Year 2010/2011 measures the City’s footprint to be 2504.46 tonnes of carbon dioxide equivalent, with the vast majority of the emissions coming from electricity use. By preparing this inventory, the City is well-placed to develop an emissions reduction strategy to reduce its emissions in the future.

There are areas that have not been included in the report such as water use, employee commuting, business travel, paper use and waste. Industry standards should be developed in the coming years which will assist in the City to include these items within future reports and provide a more accurate representation of carbon inventory information.

Attachments

1. Carbon Inventory and Management Report Baseline year 2010/2011

Carbon Inventory and Management Report Baseline year 2010/2011

TRIM Ref. M11/26175

Summary

This report summarises the findings from a baseline inventory that was completed for the City of Nedlands, and recommends actions towards a Carbon Management Plan.

This inventory has measured the baseline year for the City of Nedlands' carbon emissions, and hopes to develop carbon mitigating actions by the City.

The footprint measured was 2504.46 tonnes of carbon dioxide equivalent emissions for the 2010/2011 financial year.

Contents

Introduction

This Carbon Inventory and Management Report (hereafter "Carbon report) has been prepared for the City of Nedlands (hereafter "the City") and covers the period from 1 July 2010 to 30 June 2011.This report has been developed using the WALGA Greensense Reporting Platform, to which the City is currently subscribed.

Background

The City of Nedlands is located 8km from the Perth CBD, and covers an area of more than 20km². The suburb is blessed with beautiful river foreshore and beach access, plus an abundance of parks, reserves and bush areas. These coastal and river areas pose particular challenges when considering future climate changes.

Local Governments face the challenge of adapting to climatic change and protecting their infrastructure, whilst keeping the community safe and well provided for. The City of Nedlands believes that local government should lead the way towards a low-carbon future by striving to reduce greenhouse gas emissions, while maintaining the current high level of service to its residents.

Carbon Neutral

The City has the opportunity to adopt policies and procedures to become "Carbon Neutral". This means the City would reduce its net greenhouse gas emissions to nil. That is, all emissions for the organisation are avoided, reduced or offset to the point where net emissions are zero.

The process towards becoming carbon neutral is below:

Step 1. Measure greenhouse gas emissions.
Step 2. Reduce highest emission producing areas through a Carbon Reduction Plan.
Step 3. Switch to energy sources that create less greenhouse gas emissions.
Step 4. Offset all remaining greenhouse gas emissions.

Whether or not the City decides to adopt the carbon neutral approach, it should aim to reduce emissions as much as is feasible. An achievable starting point is to reduce carbon emissions by 20% by June 2015 based on 2010/2011 levels.

Greensense Reporting Platform

From the WALGA Climate Change website:

The WALGA Reporting Platform enables participating councils to track and report their greenhouse gas emissions, energy consumption, and energy production. It is a complete greenhouse gas accounting system that follows the methods and factors of the National Greenhouse Accounts Factors. It is suitable for reporting under the National Greenhouse and Energy Reporting Act (NGER), the National Carbon Offset Standard (NCOS) and the Greenhouse Gas Protocol (ISO14061.1).

The City of Nedlands subscribed to this service in January 2011, and includes all technical support from Greensense. Synergy and Land, Gas & Power data is downloaded directly from the providers in to the Platform, reducing the need for data entry by the City. Data for all other sources (fuel, natural gas, waste etc) is currently manually entered by the City's Sustainability Officer. Data has now been entered for June 2009 to present.

We have the opportunity to engage Greensense View, which shows in real-time our energy and greenhouse gas consumption. It allows us to identify anomalies and faults within the City's operations, and also to monitor the effectiveness of any solar panels. The Town of Cambridge has subscribed to this service, and they have installed touch-screens at their administration centres and libraries, where residents can explore the data at their leisure. This is being used as an educational tool for the community. Greensense View comes at a greater cost, around $15,000 per building including installation and equipment (as of January 2011).

Reporting Obligations

The Australian Government Department of Climate Change and Energy Efficiency manages the National Greenhouse and Energy Reporting Scheme (NGERS). They assess whether or not a business needs to report their carbon emissions based on the following criteria:

From 1 July 2008, all businesses must apply for registration with the Greenhouse and Energy Data Officer if they:

- are a constitutional corporation, and
- Meet a reporting threshold for greenhouse gases or energy use or production for a reporting (financial) year.

(Department of Climate Change and Energy Efficiency 2011)

The reporting thresholds for businesses are in the Table below:

(Department of Climate Change and Energy Efficiency 2011)

As the City of Nedlands' emissions are only 2.5kt of CO2-e, we are not obligated to report under NGERS. However, this requirement may change in future to include a requirement for local governments to report their emissions. Also, in the interest of being transparent and accountable, the City of Nedlands could report our emissions on the City of Nedlands website, and provide them to WALGA upon request.

Aims

This report presents the City's greenhouse gas emission sources and total emissions for the baseline year, 1 July 2010 to 30 June 2011.
The aims of this report are:

- To present the City's greenhouse gas inventory, developed in accordance with the GHG Protocol, as a baseline year for their greenhouse gas emissions reporting;
- To identify any opportunities to save money by increasing the energy efficiency of the City's operations.
- To identify any opportunities to reduce greenhouse gas emissions within the City, and to consider committing to becoming a Carbon Neutral City

Primary Greenhouse Gas Generating Activities

The primary activities identified through the carbon inventory that generated the most greenhouse gas emissions for the Town are:

- Purchased electricity (scope 2 emissions) for streetlights;
- Purchased electricity (scope 2 emissions) for Council buildings and infra-structure;
- Diesel and petrol combustion (scope 1 emissions) from fleet vehicles for transportation.

See Appendix 1 for a more detailed summary from the Platform.

Scope Definitions

Scopes are used to categorise direct and indirect emissions. Scopes have been introduced by the Greenhouse Gas Protocol to improve carbon accounting transparency and avoid double counting of emissions.

- **Scope 1 –** Direct greenhouse gas emissions occurring as a result of an activity that constitute the facility. Examples include burning of diesel in cars/trucks, and manufacturing processes that releases gases.
- **Scope 2 –** Indirect greenhouse gas emissions from energy (e.g. electricity) that is generated off site and then purchased for use by the facility (eg. Purchased electricity).
- **Scope 3 –** All other indirect greenhouse gas emissions that have been generated as a consequence of the facility's activities, but occur from sources not owned or operated by the City. Also, emissions that are not reported under the National Greenhouse and Energy Reporting (NGER) scheme.

Examples for the City of Nedlands include waste going to landfill from council operations.

Boundaries

This section shows the organisational and operational boundaries that were used to develop the carbon inventory for the City. All activities that generate greenhouse gas emissions are shown as direct or indirect emissions (determined by their scope). As a Local Government, the City generally has 100% ownership of premises and vehicles that are managed under the guidance of the Chief Executive Officer. The exceptions are jointly funded or leased buildings and community centres, such as sports change rooms.

NGER defines a reportable facility as one that the organisation has operational control over. From this definition, we have excluded any buildings owned by the City but are rented out to other organisations, as we do not have operational control over their emissions.

The exception to this is the street lighting within the City of Nedlands. While we do not have operational control over streetlights, we feel this significant user of electricity should be recorded.

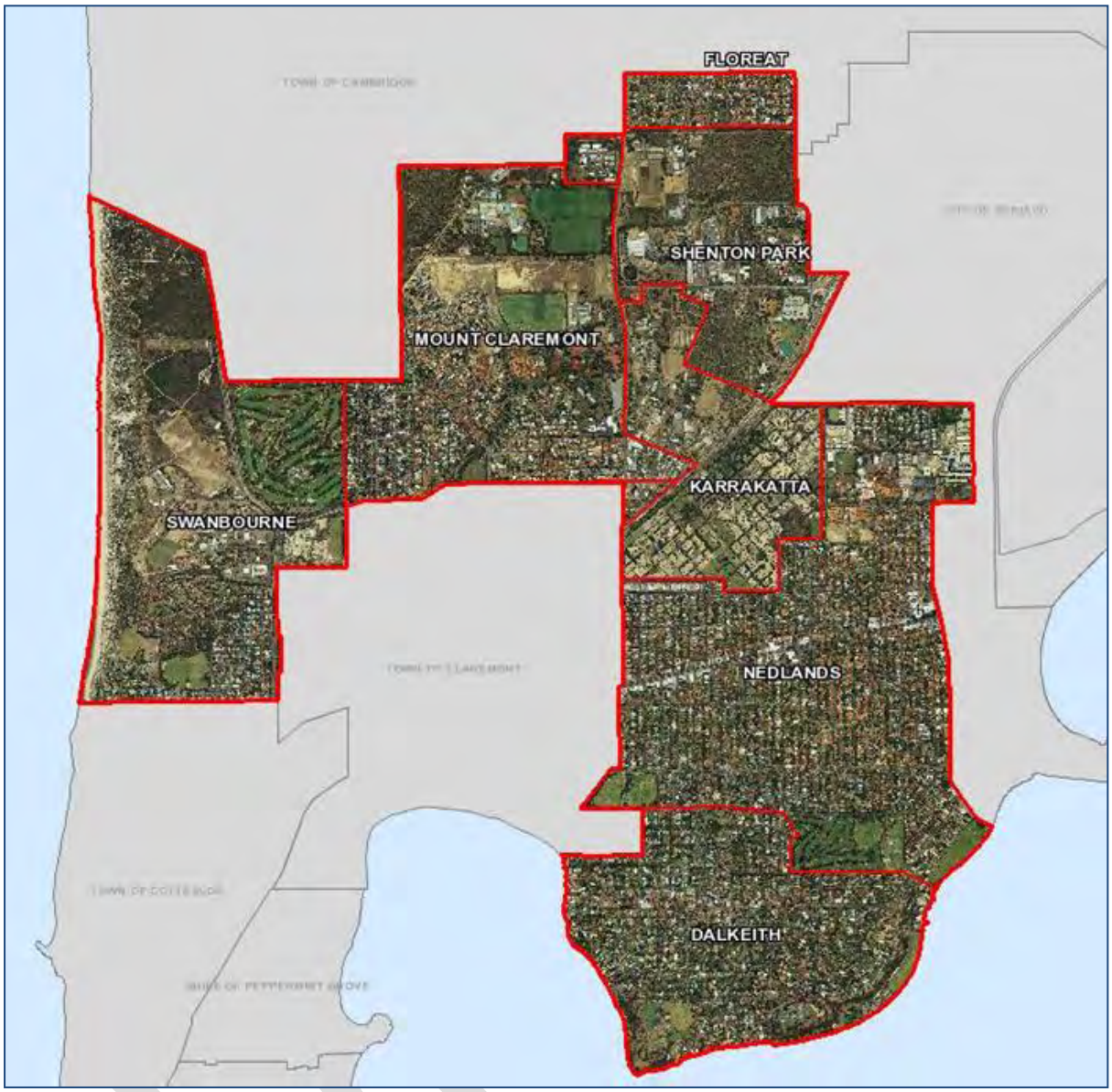

Figure 1: The City of Nedlands

Emissions Sources Included

Table 1: Emissions sources included in the boundary for the City's carbon inventory July 2010 – 30 June 2011

Emissions Source	Scope	Justification
Petrol fuel (fleet)	Scope 1	The City consumed petrol for transportation, releasing greenhouse gases in to the atmosphere as a direct result of that activity. Both fuel delivered to the depot, and fuel purchased with fuel cards have been included.
Diesel fuel (fleet)	Scope 1	The City consumed petrol for transportation, releasing greenhouse gases in to the atmosphere as a direct result of that activity. Both fuel delivered to the depot, and fuel purchased with fuel cards have been included.
LPG (fleet)	Scope 1	The City consumed LPG for transportation, releasing greenhouse gases in to the atmosphere as a direct result of that activity. No fleet vehicles currently use LPG in 2011, however there were some purchases in the 2010/2011 year, and there may be future purchases, so it has been included.
Purchased electricity (buildings)	Scope 2	The City consumed electricity
Purchased electricity (street lights)	Scope 2	The City has included purchased electricity for street lighting in its inventory. Although the City has no control over streetlights, it has been included to reflect the true electricity usage within the city.
Natural gas (buildings)	Scope 2	The City consumed natural gas for water heating within its buildings

Emissions Sources Excluded

Table 2: Emissions sources excluded from the City's carbon inventory 1 July 2010 – 30 June 2011

Emissions Source	Scope	Justification
Refrigerant emissions	Scope 1	Emissions from refrigerators and air conditioners have been excluded since they were considered to be negligible
LPG cylinders	Scope 1	Emissions from LPG cylinders have been excluded as the City on uses these cylinders for powering the BBQ at the depot, and so have been considered to be negligible
Employee commuting	Scope 3	Employee commuting is outside the operational control of the organisation and so has been excluded
Water use	Scope 3	Water use is not reportable under NGER as it is not considered to be a major source of carbon emissions. Our water use is monitored through the ICLEI program. If this program was to cease, we may monitor water use as part of the carbon inventory
Leased buildings	Scope 3	The City has chosen to exclude emissions associated with buildings that are being leased to other organisations as the City has no operational control over these facilities. Should the City take over control in future, they will be added to the inventory.
Business travel – flights, taxis	Scope 3	Business travel has been excluded for this inventory as the City currently has no centralised record of staff business travel. This should be included in future inventories.
Paper use	Scope 3	Paper use is a major use of resources within the City's operations and will hopefully be included in future inventories. Discussion needs to be had regarding how the City records paper use, as some is sent to be recycled, some is kept and some is sent to landfill. The whole lifecycle of the product needs to be considered, and is outside the scope of this inventory.
Waste (waste mix)	Scope 3	Waste produced by council operations is classed as Scope 3 as they are not reported under the NGER scheme. Waste being sent to landfill should be included in future inventories, following a "waste produced during council operations" audit.

Waste (street litter bins)	Scope 3	Litter bins have been excluded as reliable data is not yet available for these. Waste being sent to landfill should be included in future inventories, following a "waste from public street litter bins" audit.

Carbon Inventory

WALGA's Greenhouse Gas reporting platform showed that the City's total greenhouse gas emissions were 2504.46 tonnes of carbon dioxide equivalent for the 2010/2011 financial year.

Figure 2, below, shows the breakdown of the City's greenhouse gas emissions. Over 83% of our total emissions were from purchased electricity (including street lighting), and almost 17% were from fuel consumption for transport. Therefore our two main opportunities for carbon reduction are reducing use of purchased electricity, and reducing use of fuel for transport in fleet vehicles.

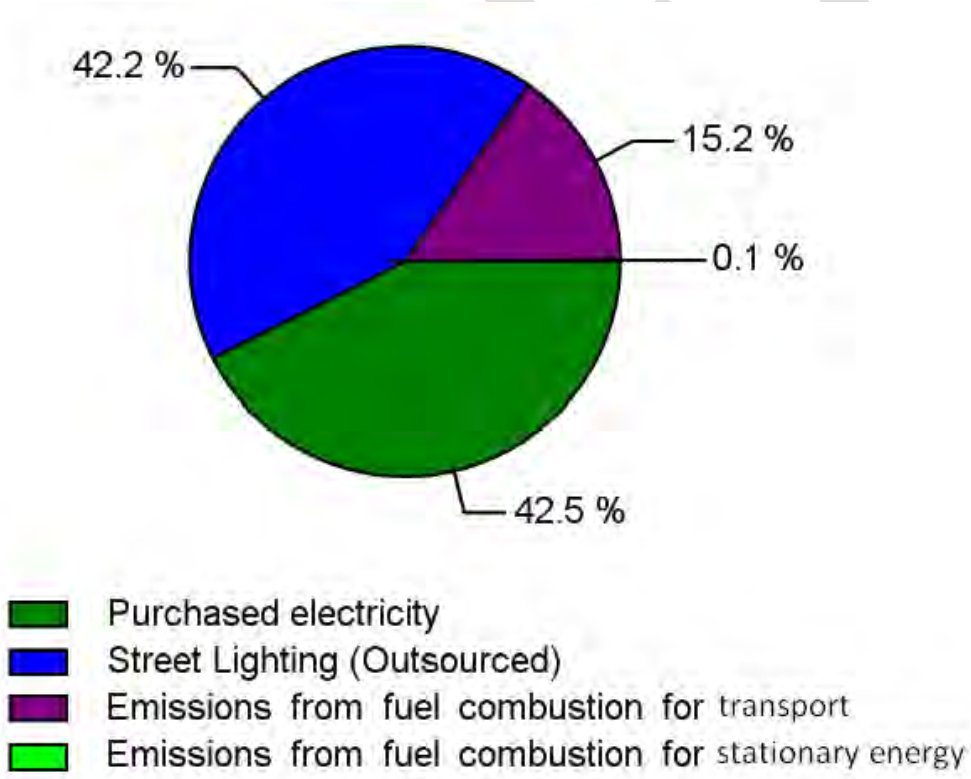

Figure 2: Greenhouse gas emission profile

The City's top 5 emitters of carbon are listed below. These indicate the priority areas for the City to be making changes to their current operations, in order to reduce our emissions of carbon.

Facility	Tonnes Carbon Dioxide Equivalent (CO2-e)
Lighting	1118.11
Diesel fuel	265.66
Administration building	194.98
Pumps & park lighting	113.85
Unleaded petrol	107.80

Carbon Management

The City aims to reduce its Carbon emissions through a Carbon Reduction Plan. EPA Victoria's "Best Practice" Carbon Management Principles (Figure 3 below) is a simple, visual model of how the City can best achieve Carbon reduction or neutrality.

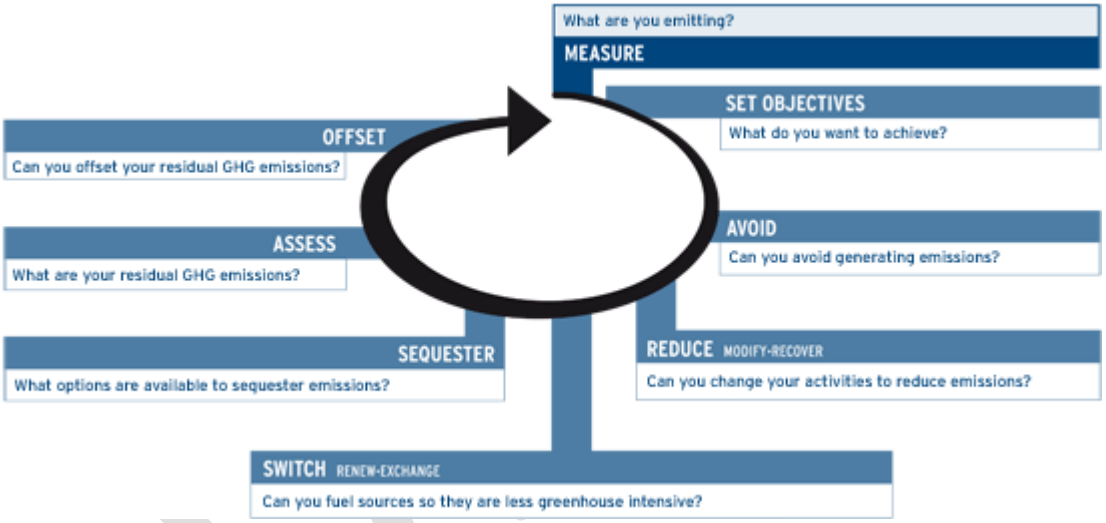

Figure 3: EPA Victoria's "Best Practice" Carbon Management Principles

Carbon Reduction Plan

A recommendation of this Carbon Report is that the City develops a Carbon Reduction Plan. This Plan should follow EPA's Carbon Management Principles. The Plan should include actions to achieve the following, in the order written (as suggested by "Best Practice".

Measure

This Carbon Report has achieved the first step towards Carbon Management, by measuring our baseline emissions. As established previously, the City's Carbon emissions for 2010/2011 was 2504.46 tonnes CO2-e.

Set Objectives

The next step for the City towards carbon reduction is the development of the Carbon Reduction Plan. This Plan should include all Carbon Management Principles discussed here, and be based on the Carbon Inventory contained in this Carbon Report.

Avoid

The priority for the City's Carbon Reduction plan should be to avoid creating carbon emissions in the first place. This requires behaviour, procedure or equipment change. Some examples are below:

- Behaviour-change programs for staff targeting turning off appliances overnight, turning off lights, using public transport during the workday (the City's Sustainability Officer already engages in behaviour change programs for staff but these programs could be expanded)

Reduce

The City can reduce emissions by increasing the efficiency of council operations. Some examples are below:

- Altering the purchasing policy to favour more fuel efficient vehicles
- Retrofitting buildings with low-energy fittings such as LED lighting and motion sensor lights for bathrooms and kitchens.

Switch

Switching to less greenhouse intensive fuel sources has already begun in the City with the installation of solar panels in 2010. The City could install more solar panels, or consider park lighting powered by solar or wind.

Another opportunity the City has is to switch to GreenPower. GreenPower is power purchased through Synergy that comes from renewable sources such as wind power. It costs more (around 6c extra per unit), but the emissions for GreenPower use are nil, as the energy is sourced from renewable sources.

If the city was to switch to 100% GreenPower, we would cut our greenhouse gas emissions by over 80%, for a 6-10% increase in electricity cost. Electricity cost for the City of Nedlands in 2010 was $600,000. The purchase of GreenPower would increase this by $36,000-$60,000.

Sequester

Sequestering is not a viable option for the City.

Assess

Once all previous steps have been achieved, The City will need to assess its greenhouse gas emissions. The City will then decide to review its goals.

Offset

Offsetting should be a final stage in any Carbon Reduction plan. Offsetting without reducing or avoiding emissions is **not** best practice for carbon management (EPA Vic 2011). However, Sustainability Strategy 2009-2012 KFA 5.3.1 requests an investigation in to the feasibility of City-wide carbon off-setting for Council activities. Therefore, three options for offsetting are explained below. This list is by no means exhaustive; it is simply to give some indication of cost and benefits. The City should exhaust all other options towards avoiding and reducing emissions before resorting to purchasing offsets.

Option 1: Fully offset emissions without reducing/avoiding emissions
Total minimum yearly cost for Option 1: $30,073
Net Carbon emissions reduced: NIL

The City's emissions for the 2010/2011 base year were 2504.46 tonnes carbon dioxide equivalent. Some quotes for carbon offsetting have been sourced for the city, and are summarised below:

Company	Cost to offset per tonne CO2-e	Total yearly cost of offsetting 2504.46 tonnes CO2-e
Custom Fleet (via Origin Energy)	$14.82	$37,116
Carbon Neutral	$20.00	$50,090
Carbon Planet	$23.00	$57,602

Option 2: Offsetting vehicle fleet only
Total minimum yearly cost for Option 2: $5624
Net Carbon emissions reduced: 379.50 tonnes CO2-e

An interim solution while the City is reducing emissions would be to begin by offsetting emissions produced by the fleet only. As we reduce our emissions through more efficient vehicles, the cost per quarter would reduce as time goes on. Based on the 2010/2011 base year, where 379.50 tonnes CO2-e was produced by the fleet, the offset costs would be as follows:

Company	Cost to offset per tonne CO2-e	Total yearly cost of offsetting fleet 379.5 tonnes CO2-e
Custom Fleet (via Origin Energy)	$14.82	$5624

Carbon Neutral	$20.00	$7590
Carbon Planet	$23.00	$8730

Review

Once the City has developed and adopted a Carbon Management plan, and the plan has been implemented, another inventory should be created and the Management plan should be reviewed.

Reporting procedures and improvements

While preparing the City's initial Carbon Inventory, some areas for improvement for future reporting and inventories were identified.

Paper has been excluded from this inventory, as there is currently no national standard for reporting paper use. Paper sent to landfill could be reported, however this does not include paper used and kept within the City, and does not account for the production and transportation of the product. Paper purchased by the City could be reported, however this does not take in to account paper sent for recycling.

Waste produced by council operations needs to be included in future inventories. Waste is a significant contributor to greenhouse gas emissions once it arrives at landfill. a "waste produced during council operations" audit will need to be performed on waste produced by City operations so this can be included in future inventories.

Business travel has not been included in this inventory as the City currently has no consolidated record of business travel. Air travel is a huge contributor to greenhouse gas emissions, and needs to be included in future inventories. Taxi charges, although expected to be minimal, will also need to be included.

Recommendations

To ensure the City begins and progresses through its Carbon Reduction program, the start of which has been the preparation of this Carbon Inventory Report, it is recommended that A Carbon Reduction Strategy or Action Plan be developed.

Acknowledgements

Format adapted from Town of Cottesloe's Carbon Inventory Report prepared by Elizabeth Lowrey, 10 June 2011

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Appendix 1 – FY2010-2011 Greenhouse Gas Emissions Summary Report

City of Nedlands

FY2010-11 Greenhouse Gas Emissions Summary Report

NGER Total Emissions (tCO2-e)

Offsets, such as any "green power" purchased from utilities, do not reduce reportable emissions under NGER regulations

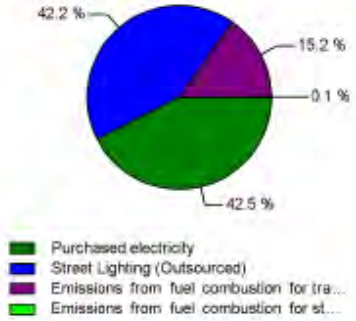
Scope 1	+	Scope 2	=	NGER Emissions
382.84	+	1,064.78	=	1,447.62

ISO 14064 Net Emissions By Scope (tCO2-e)

Scope 1	+	Scope 2	+	Scope 3	=	Total Emissions	-	Other Offsets	=	Net Emissions
382.84	+	1,064.78	+	1,056.83	=	2,504.46	-	0.00	=	2,504.46

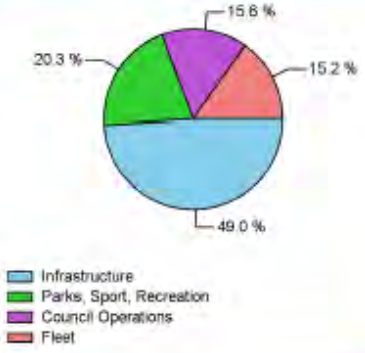
ISO 14064 Net Emissions By Source Type (tCO2-e)

Emission Source Type	Net Emissions
Purchased electricity	1,064.78
Street Lighting (Outsourced)	1,056.83
Emissions from fuel combustion for transport	379.50
Emissions from fuel combustion for stationary energy	3.34
Scope 3 emissions from waste (by waste mix)	0.00



ISO 14064 Net Emissions By Organisation Unit (tCO2-e)

Organisation Unit	Net Emissions
Infrastructure	1,226.69
Parks, Sport, Recreation	508.24
Council Operations	390.03
Fleet	379.50



ISO 14064 Top 5 Facilities By Net Emissions (tCO2-e)

Facility Name	Net Emissions
Lighting	1,118.11
Diesel	265.66
Administration Building	194.98
Unleaded Petrol	113.85
Mixed pumps, lighting	107.80

Reporting Period:	1-Jul-2010 to 30-Jun-2011	**Last Data Calculation Date:**	14-Dec-2011
Status:	Reporting Period Open	**This report was prepared on:**	14-Dec-2011

WALGA

WALGA Greenhouse Gas Reporting and Abatement Platform
Powered by Greensense

Greensense
Making sense of climate change

Appendix 2 – Street lights within the City of Nedlands, 2010/2011

Quantity	Unit of Measure	Wattage	Lamp Type	Estimated Consumption kWh
134	Lamps	80	Mercury vapour	46,497.11
1,670	Lamps	125	Mercury vapour	905,435.73
12	Lamps	250	Mercury vapour	13,012.25
43	Lamps	150	High pressure sodium	27,976.34
202	Lamps	250	High pressure sodium	219,039.54
4	Lamps	70	Low pressure sodium	1,214.48
2	Lamps	70	Metal halide	607.24
2	Lamps	150	Low pressure sodium	1,301.23
31	Lamps	80	Mercury vapour	10,756.79
40	Lamps	125	Mercury vapour	21,687.08
136	Lamps	70	Low pressure sodium	41,292.21

SI08.12 Inspiring a 10% Reduction in Energy Use

Committee	10 April 2012
Council	24 April 2012

Applicant	City of Nedlands
Owner	City of Nedlands
Officer	Phoebe Huigens – Sustainability Officer
Director	Andrew Melville – Acting Director Sustainable Infrastructure
Director Signature	
File ref.	M12/5083
Previous Item No's	Nil
Disclosure of Interest	No officer involved in the preparation of this report had any interest which required it to be declared in accordance with the provisions of the *Local Government Act (1995).*

Purpose

To agree to participate in the 10% Challenge, by registering online and committing to reduce carbon emissions by 10%. Then, to encourage Nedlands businesses and residents to participate, thereby reducing the overall carbon emissions of the City.

Recommendation to Committee

Council:

1. **Participates in the 10% Challenge by registering at www.10percentchallenge.com.au**

2. **Agrees to reduce its carbon emissions by 10% over a period determined in conjunction with the development of a Carbon Reduction Strategy and Action Plan**

3. **Encourages residents and businesses to participate in the 10% challenge**

4. **Promote the 10% challenge in the City of Nedlands community.**

Strategic Plan

5.1 Manage the City's resources in a sustainable and responsible manner.

6.4 Develop and implement a range of community education and behaviour change programs that promote community safety, sustainable living and wellbeing.

Background

The Mayors of Randwick, Waverley and Woollahra councils wrote to Mayor Hipkins on 1 February 2012 requesting that the City participate in the 10% Challenge ("the Challenge"). Mayor Hipkins requested that Administration prepare a report to Council regarding the Challenge.

Proposal Detail

The City has the opportunity to commit publicly (via the 10% Challenge website) to reduce its emissions or energy use by 10%. The purpose of this, in addition to simply reducing emissions, is to then encourage Nedlands businesses and residents to also participate, thereby reducing the overall carbon emissions of the City.

At a later date the City will need to determine a timeframe for the 10% reduction in carbon emissions. It is suggested that this is determined in conjunction with the preparation of a Carbon Reduction Strategy and Action Plan. This will require the endorsement of a baseline year.

Consultation

Required by legislation: Yes ☐ No ☒

Required by City of Nedlands policy: Yes ☐ No ☒

Legislation

Nil

Budget/financial implications

Budget:

Within current approved budget: Yes ☒ No ☐

Requires further budget consideration: Yes ☐ No ☒

Financial:

Joining the 10% Challenge itself does not require any budget.

Risk Management

Through reducing energy use and carbon emissions such as participating in the 10% Challenge, the City reduces costs of energy, which has positive financial implications for the upcoming Carbon Tax.

Discussion

The 10% Challenge is a program run by the “Do Something Foundation”, whereby individuals, businesses and councils can commit to reducing their carbon emissions by 10%. The City has an important role to play in our community, to demonstrate responsible leadership in regards to reducing carbon emissions and minimising the production of waste and atmospheric pollution. The City can encourage residents and businesses to take the 10% Challenge parallel to the City’s initiatives. This reduces the overall City of Nedlands emissions, and makes the City a more sustainable City.

10% Challenge’s website is a valuable resource for residents and businesses, as it provides advice and assistance for reducing emissions. Calculating their baseline emissions, annual savings in emissions and costs, and receiving tips on saving energy.

Conclusion

Through participation in this program, the City is making a significant commitment to reducing its contribution to resource depletion, atmospheric pollution and waste creation. By taking this step the City can show leadership and encourage residents and businesses to also commit to the Challenge.

The City, at a later date, will need to determine a timeframe for the 10% reduction in carbon emissions. This should be determined while preparing a Carbon Reduction Strategy and Action Plan.

Attachments

Nil