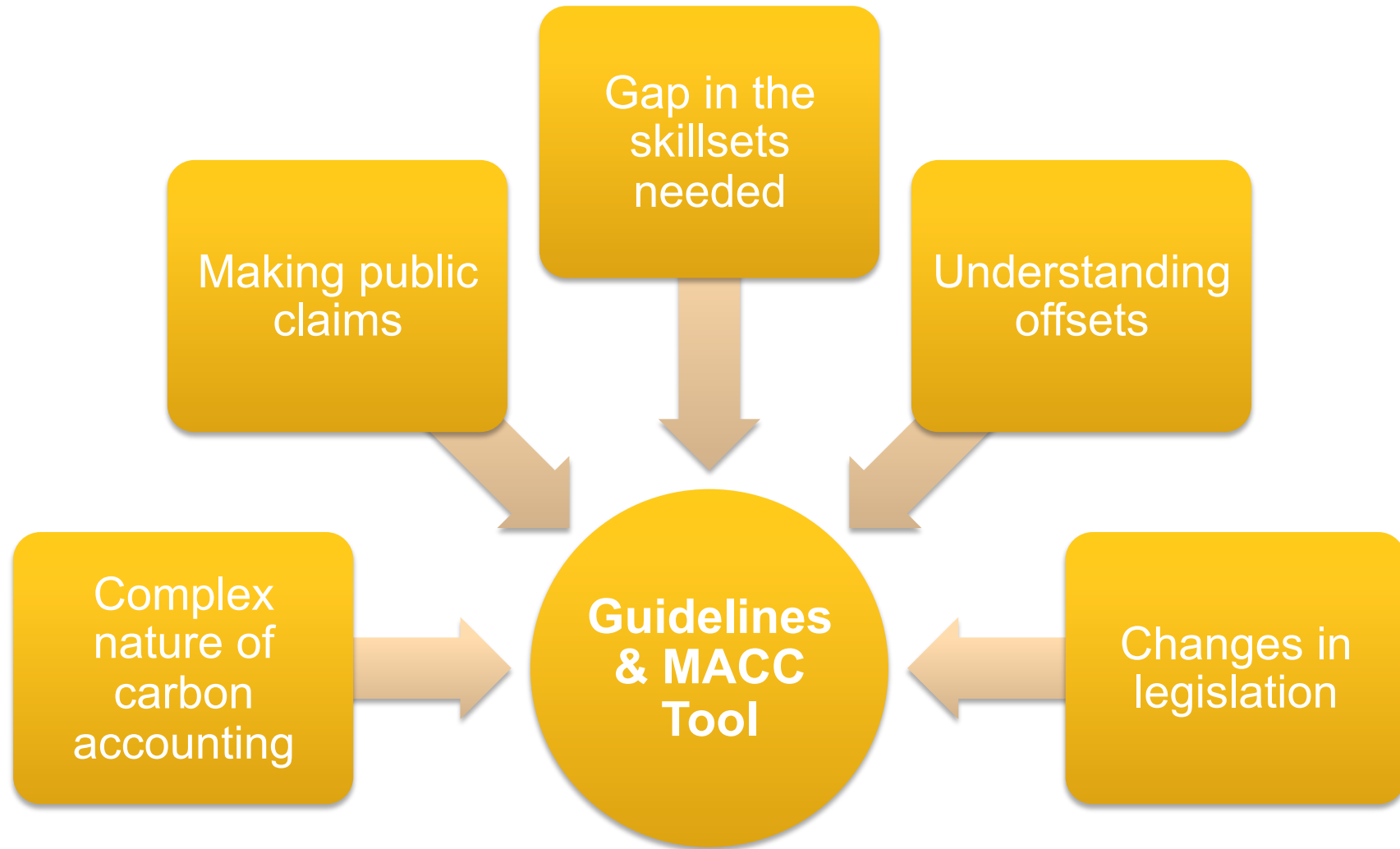# AGENDA

- Background

- Overview: A project managers guide to reducing greenhouse gas emissions

- Overview: Guidelines to Developing a Marginal Abatement Cost Curve (MACC)

- Demonstration: MS Excel MACC Tool

BACKGROUND

Making public claims

Gap in the skillsets needed

Understanding offsets

Complex nature of carbon accounting

Guidelines & MACC Tool

Changes in legislation
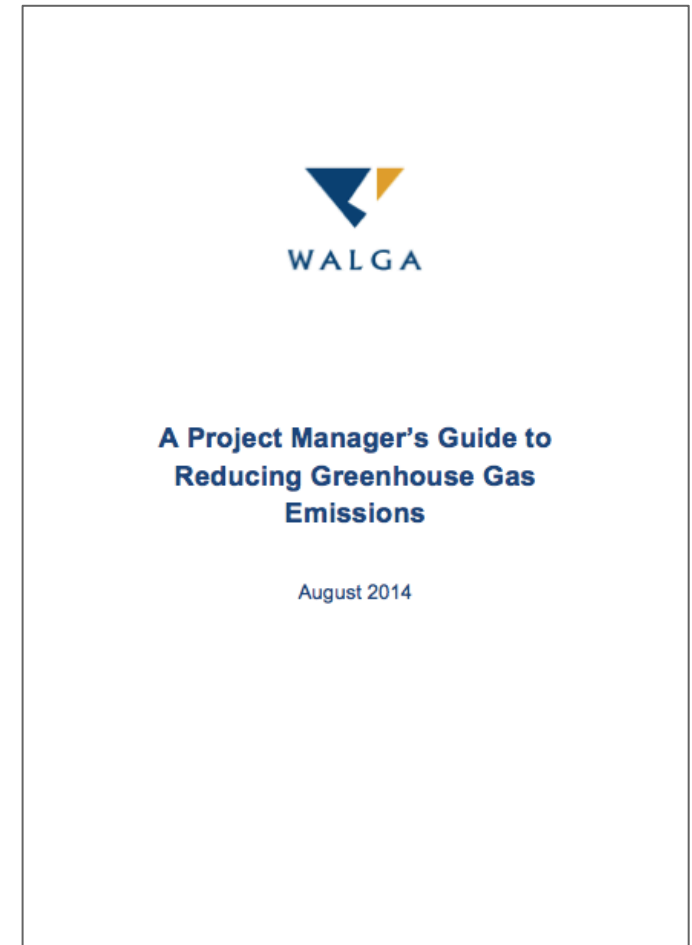
THE PROJECT MANAGERS GUIDE TO REDUCING EMISSIONS
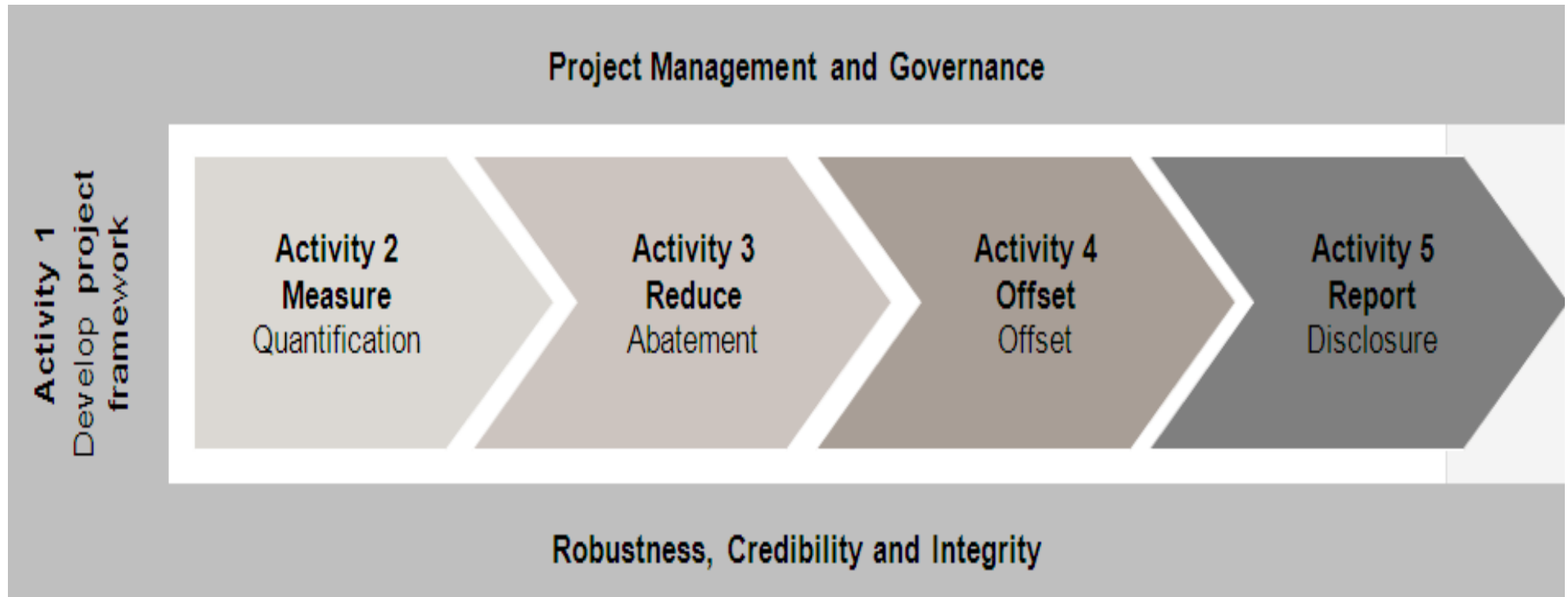
ABOUT THE GUIDE

- Designed to show you HOW TO

- Supports sound project management practices

- Step-by-step approach

- Worked example

WHAT ABOUT NCOS?

- Aligns with NCOS ✓

- Fleshes out some of the steps NCOS require ✓

- Does NOT result in compliance or accreditation ✗

A Project Manager's Guide to
Reducing Greenhouse Gas
Emissions

August 2014

THE EMISSIONS REDUCTION PROCESS

Project Management and Governance

Activity 1 — Develop project framework

Activity 2 — Measure — Quantification

Activity 3 — Reduce — Abatement

Activity 4 — Offset — Offset

Activity 5 — Report — Disclosure

Robustness, Credibility and Integrity

1. DEVELOP THE PROJECT FRAMEWORK

Define the project's purpose
- Why? What do we want to achieve?

Establish a project charter
- Terms of Reference

Set up a project team
- Project Manager, Sponsor, team members

Obtain project support and budget
- Project sponsor is key

Develop a project plan
- Roles, responsibilities, timeframes, budget etc

2. MEASURE EMISSIONS

Define the organisational boundary
- What are you responsible for? What will you measure?

Define the operational boundary
- All the emissions sources within the organisational boundary

Choose a calculation method & collect data
- Which emissions factors

Calculate and aggregate emissions
- Consider reporting on different sources or scopes?

Verify inventory
- Internal? External?

3. REDUCE EMISSIONS

Identify reduction measures

Establish costs and benefits of abatement measures

Develop a reduction strategy

- Targets? Offsets? How do you determine which actions to implement

Implement abatement measures and recalculate inventory

4. OFFSET EMISSIONS

Develop an offset strategy
- What, how much, why?

Identify suitable offset standards

Select an offset provider

Purchase and retire offsets

Disclose information transparently

5. REPORT

Understand your goals of reporting
- Why report?

Decide what and when to report
- Project outcomes only? Regular status updates?

Where will you report?
- Internal bulletin boards, website, annual report

Report

DEVELOP THE PROJECT FRAMEWORK

1. DEVELOP THE PROJECT FRAMEWORK

Define the project's purpose
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Establish a project charter
- Terms of Reference

Set up a project team
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Obtain project support and budget
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Develop a project plan
- Roles, responsibilities, timeframes, budget etc

CHECKLIST

- ✓ Have the agencies motives, expectations and project outcomes been identified and agreed to?
- ✓ Have a Project Manager and Project Sponsor been appointed?
- ✓ Have the aims and approach (for example, the scope and calculation methodologies) been identified?
- ✓ Is the necessary team in place, and have resources been allocated to carry out the project tasks?
- ✓ Have roles and responsibilities been defined and agreed?
- ✓ Have key stakeholders been identified?
- ✓ Has a communication plan been prepared?
- ✓ Has a project plan been prepared, complete with milestones and deliverables?

MEASURE EMISSIONS

ORGANISATIONAL BOUNDARY

Whole Council?

Fleet Only?

Council leased buildings?

Waste Management?

Joint Ventures?
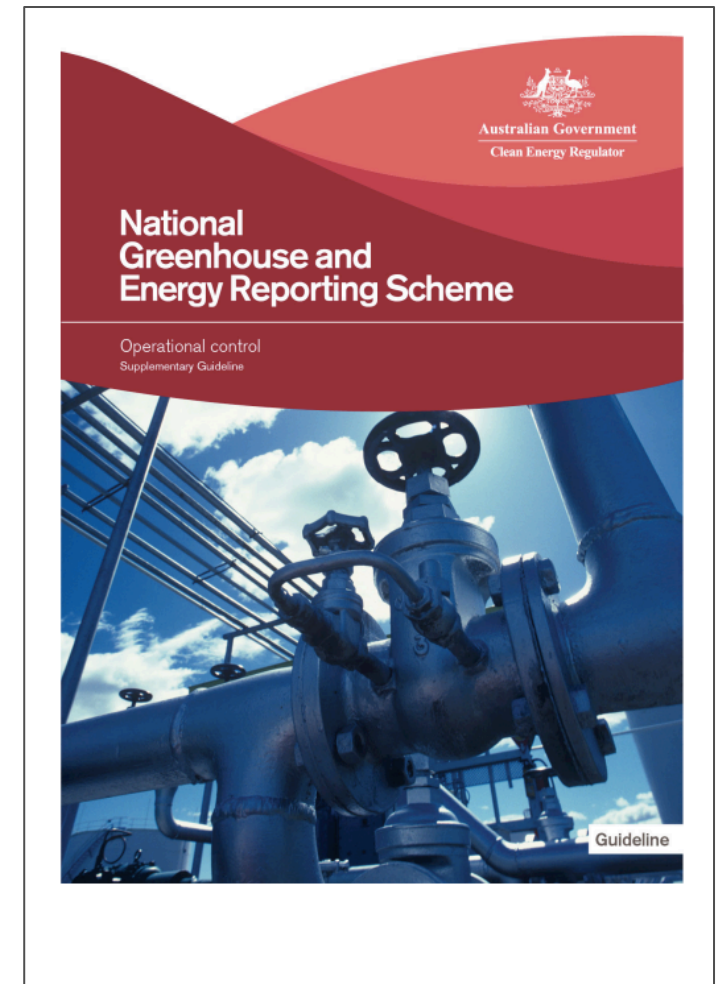
Partnerships with Regional Councils?

OPERATIONAL CONTROL

- An organisation has operational control over a facility if it has the authority to introduce or implement:
  – Operating policies
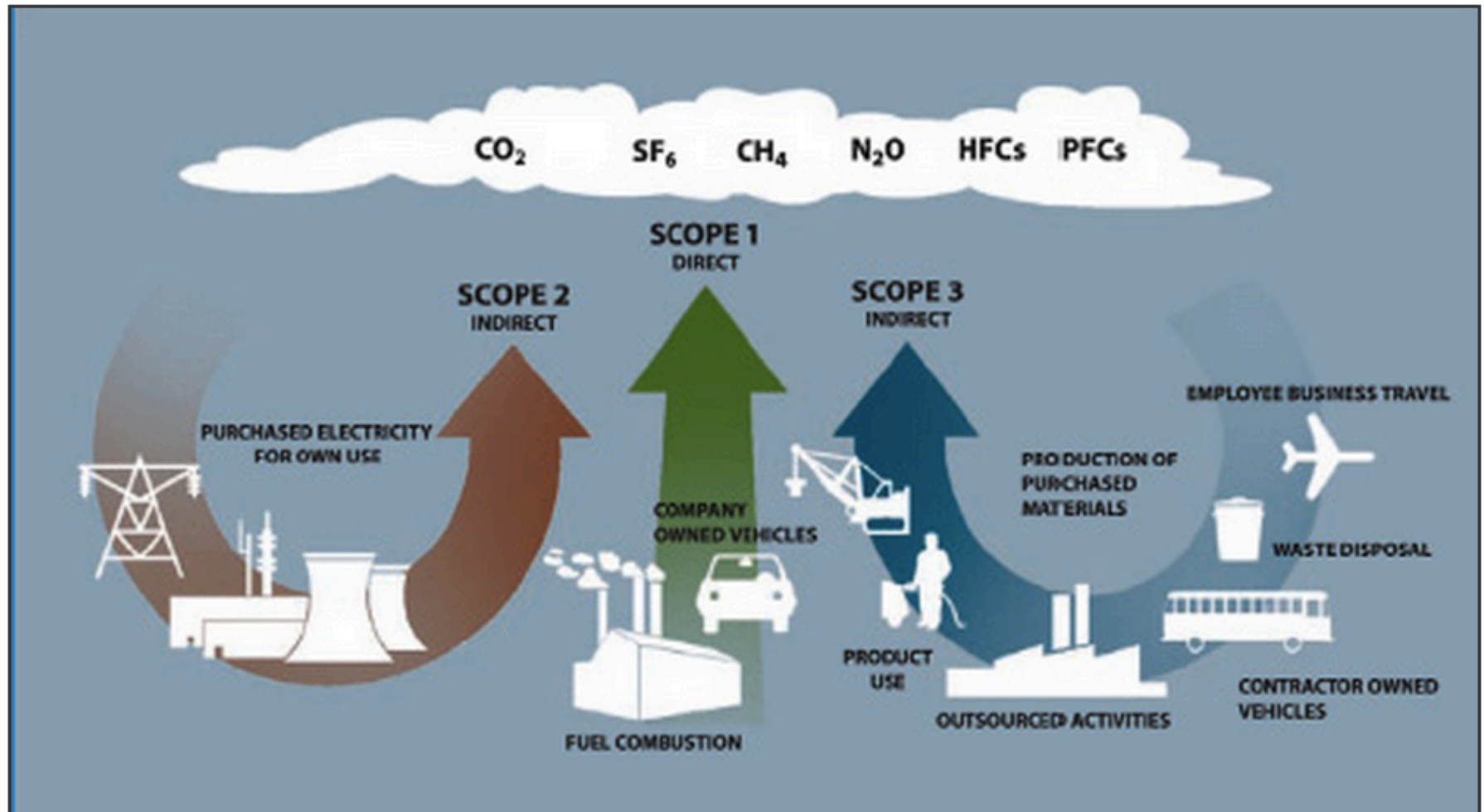 – Health and safety policies
  – Environmental policies

Sub-contracting?
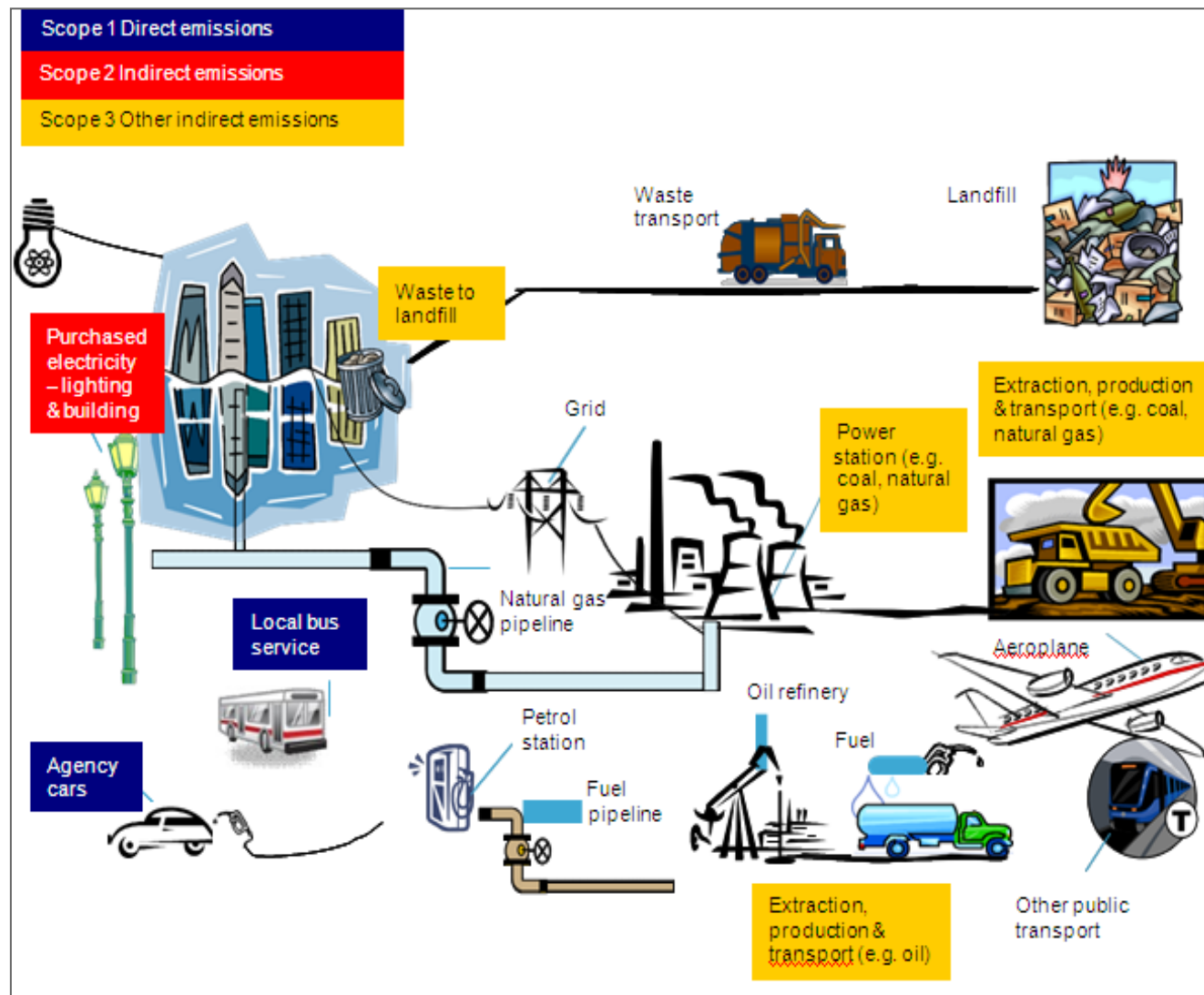
Council leased buildings?

Street lighting?

National Greenhouse and Energy Reporting Scheme

Operational control
Supplementary Guideline

Australian Government
Clean Energy Regulator

Guideline

SCOPES

Source: Greenhouse Gas Protocol Standard

FINAL BOUNDARY

CALCULATION METHODS

NGER
- Scope 1
- Scope 2

NCOS
- Scope 1
- Scope 2
- Scope 3 (more)

NGA
- Scope 1
- Scope 2
- Scope 3 (limited)

AGGREGATE EMISSIONS

Emissions source	Scope 1 emissions (tCO$_2$-e)	Scope 2 emissions (tCO$_2$-e)	Scope 3 emissions (tCO$_2$-e)	Total emissions (tCO$_2$-e)
Electricity consumed by street lighting		477.35		477.35
Electricity consumed in Shire building		359.21		359.21
Petrol consumed Shire's cars	119.15			119.15
Diesel consumed Shire's buses	210.15			210.15
Waste generated			4.32	4.32
Total emissions (tCO$_2$-e)	**329.3**	**836.56**	**4.32**	**1,170.18**

Verified

CHECKLIST

- ✓ Have the agency's organisational boundaries been defined?
- ✓ Have all the emission sources over which the agency has operational control been identified and the agency's operational boundaries been defined?
- ✓ Have the agency's emissions been categorised as Scope 1, 2 or 3 emissions?
- ✓ Has the agency decided whether to include its Scope 3 emissions as part of its inventory?
- ✓ Has raw data been gathered and/or assumptions made in areas where raw data is not available?
- ✓ Have appropriate calculation methods been selected?
- ✓ Have all emission calculations been aggregated appropriately?
- ✓ Has external expert assistance been considered/sought to verify and provide assurance over the inventory?
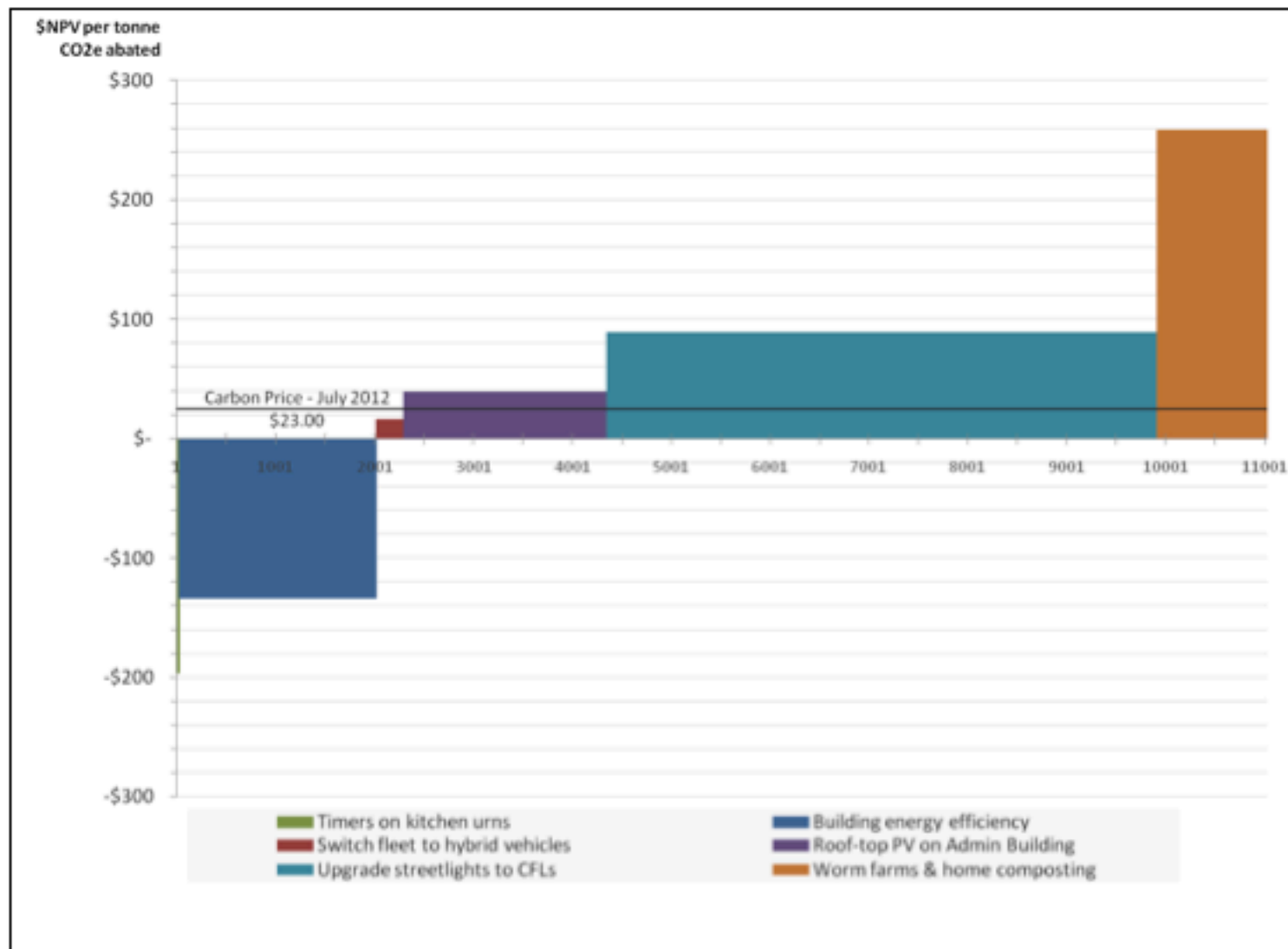
REDUCE EMISSIONS

IDENTIFY OPTIONS

ASSESS OPTIONS

REDUCTION STRATEGY

Some questions to consider?

- Are we addressing all sources of emissions?
- Do we want to focus on cost-effective abatement?
- Over what time frame are we aiming to reduce emissions?
- At what point will we stop abating?
- What are the objectives of our overall project?
- What will we implement?
- When?
- How much will it cost?

DO & CHECK

CHECKLIST

- ✓ Have abatement options from all emission sectors been explored (transport, energy efficiency, waste and renewable power)?
- ✓ Has a reduction strategy been developed?
- ✓ Are the overall project goals and objectives aligned with the reduction strategy?
- ✓ Has the agency assessed the cost efficiency of all its abatement options?
- ✓ Has the agency assessed its abatement options against other relevant criteria, for example, their environmental and social impact?
- ✓ Has the agency identified which abatement options it will implement?
- ✓ Has the agency developed an implementation plan which sets out the implementation timeframes and associated resources (including budget and staffing) for the implementation of initiatives?
- ✓ Has the agency put into place the required framework to allow it to assess the impact of the abatement measures it has implemented?
- ✓ Has the agency put into place the required framework to allow it to collect the necessary data and recalculate its inventory in the following year?

OFFSET

ABOUT OFFSETS

The process of counterbalancing CO_2e emissions by investing in projects that prevent the emissions of greenhouse gases or remove them from the atmosphere.

They should be **additional**, **verified**, **permanent** and **reputable**

Types of Offsets:

- Renewable Energy – (RECs) on the grounds they prevent energy generation from fossil fuels.

- Energy Efficiency Projects – difficult to prove additionality

- Geo- or Bio- Sequestration – removal of CO_2 from the atmosphere, such as through planting trees

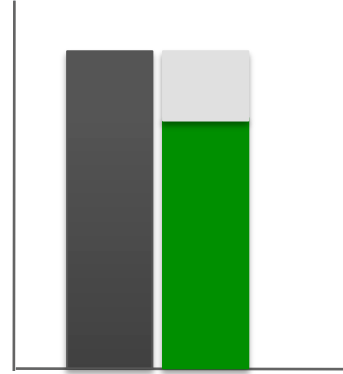- Methane Capture/Destruction – ie landfill gas capture

OFFSET STRATEGIES

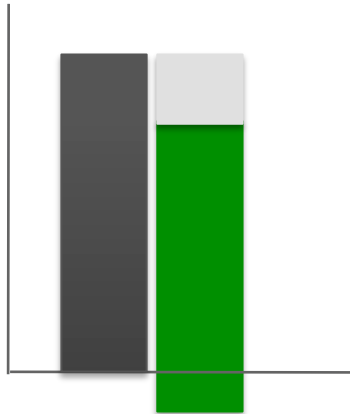Offset strategies should tie in with your abatement strategies
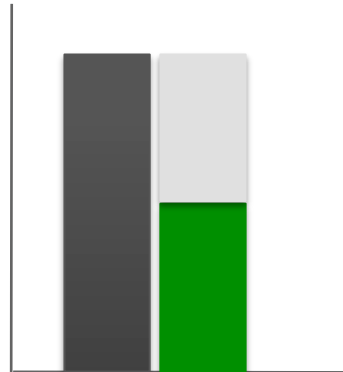
Abate and offset to a pre-determined level
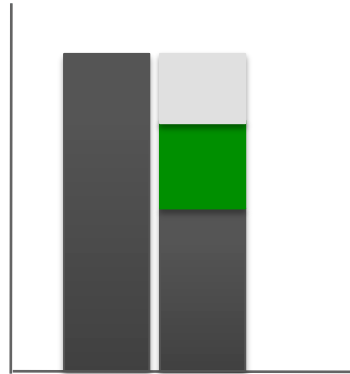
Abate, offset to balance residual emissions

Abate, offset to balance residual emissions and add a buffer

Abate to a *notional carbon price,* then balance emissions

THINGS TO CONSIDER

Additionality	Permanence
Double-counting	Timing

STANDARDS

NCOS

Greenhouse Friendly

Clean Development Mechanism

Gold Standard

Verified Carbon Standard

PUBLIC REPORTING?

- Be transparent
- Consider reporting specifics with regards to your offset activities:
  - Offset source
  - Accreditation
  - Measurement approach
- Ensure you can substantiate your claims
- Avoid making false or misleading claims

Green marketing and
the Australian Consumer Law

CHECKLIST

- ✓ Has an offset strategy been developed and agreed to?
- ✓ Has a budget been obtained for the purchase of the required volume of offsets?
- ✓ Do the offsets meet integrity standards?
- ✓ Are the offsets accredited to an appropriate standard?
- ✓ Has the agency identified a reputable offset provider?
- ✓ Has the agency sourced document from the offset provider to substantiate any claims made regarding the offsets it has purchased?
- ✓ Has the agency retired the offsets on a reputable registry and received written confirmation that this has occurred?
- ✓ Are any claims that the agency wishes to make about its offsetting activities transparent and supported by relevant documentation?
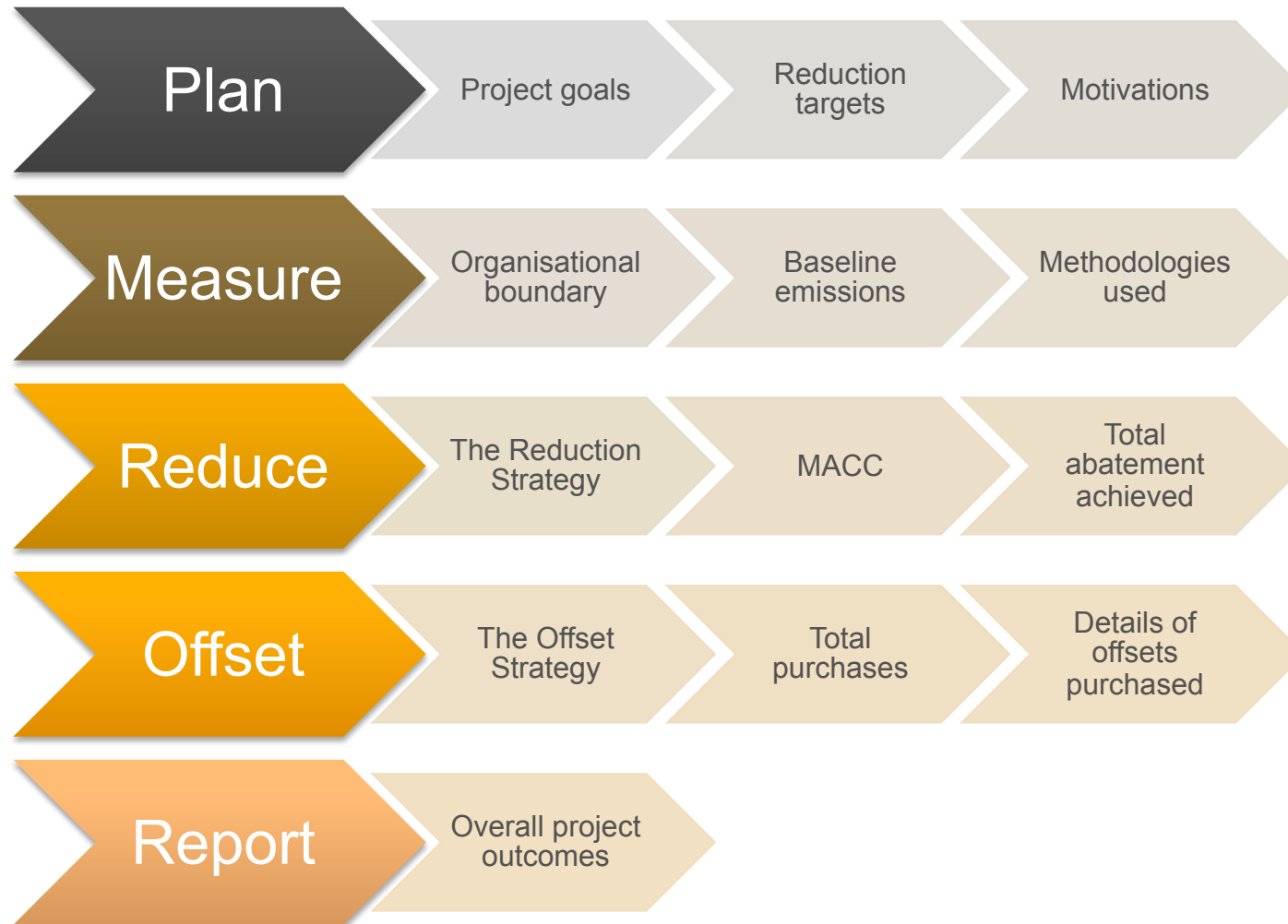
REPORT

WHY REPORT

- Mandatory (ie NGERS)
- To communicate performance to external stakeholders, demonstrate leadership and improve reputation
- To encourage changes across the supply chains
- To better prepare for future policy developments related to greenhouse gas emissions and increase their ability to influence such policy development
- To share any successes with the wider community.
- To raise awareness of activities and contributions to emissions reduction
- To increase understanding of contribution to global emissions

WHAT AND WHEN

Plan → Project goals → Reduction targets → Motivations

Measure → Organisational boundary → Baseline emissions → Methodologies used

Reduce → The Reduction Strategy → MACC → Total abatement achieved

Offset → The Offset Strategy → Total purchases → Details of offsets purchased

Report → Overall project outcomes

INTERNAL V EXTERNAL

- Revisit your project objectives

- Consider the risks:
    - Reputation risk if reported information is not accurate or verifiable
    - Legal risk if reported information is misleading or false
    - Fiduciary risk if public money has been spent on a project that has failed to produce 'value for money'.

- Consider any verification

CHECKLIST

- ✓ Has the agency identified their reasons for reporting?
- ✓ Has the agency identified the audience(s) for reporting?
- ✓ Has the agency decided what it will report and when?
- ✓ Has the agency considered the risks or reporting and taken steps to mitigate them?

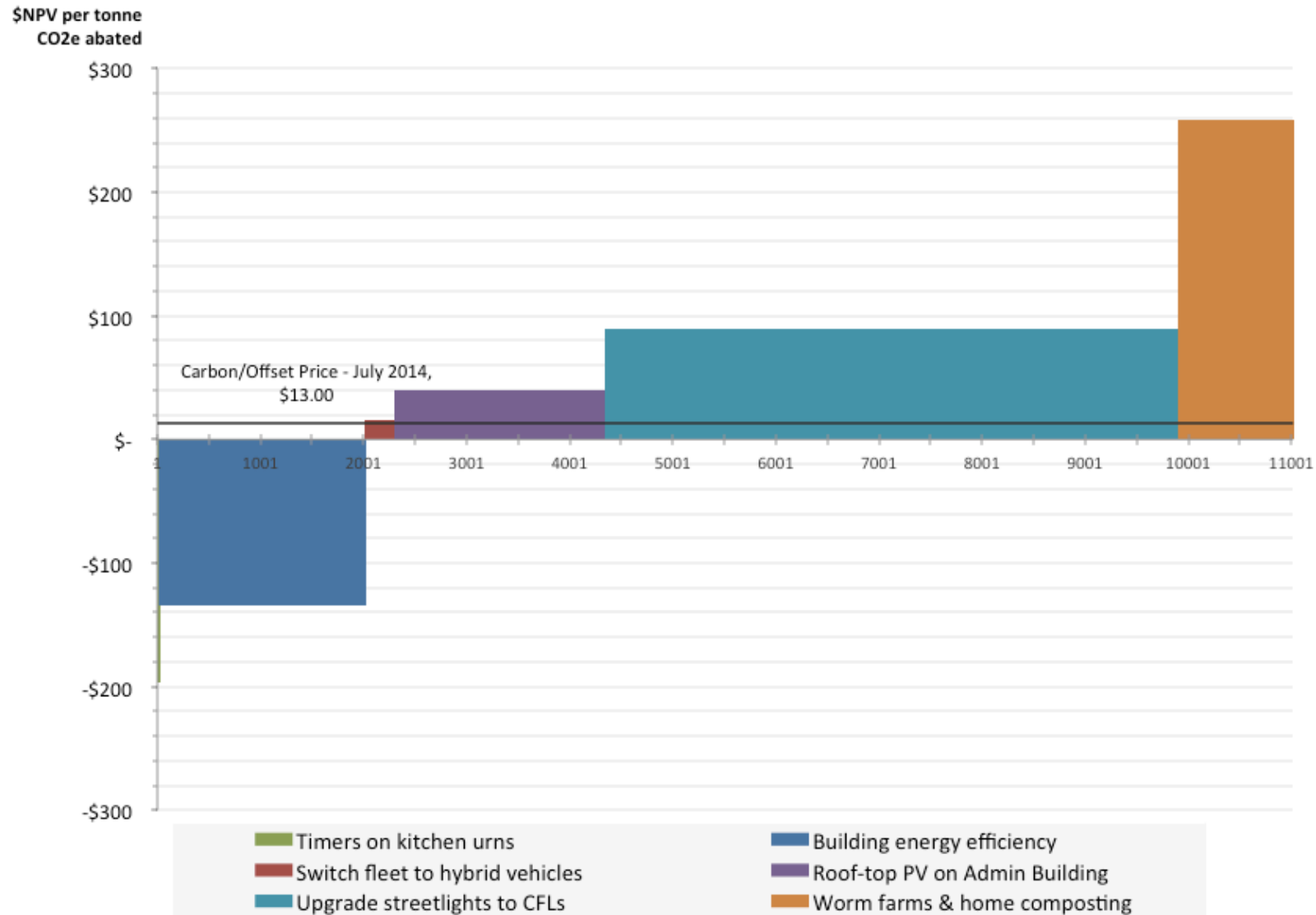# GUIDELINES TO DEVELOPING A MARGINAL ABATEMENT COST CURVE

WHAT IS MAC?

$$\text{Marginal Abatement Cost } (\$/t\ CO_2e) = \frac{-\ \text{Net Present Value }(\$)}{\text{Total GHG emissions abated over the life of the project}}$$

Where,

$$\text{Net Present Value} = \frac{\text{Total project costs} - \text{Total project savings}}{(1 + \text{discount rate})^{\text{project lifetime}}}$$

WHAT IS A MACC?

WHAT DO YOU NEED TO KNOW?

PROJECT LIFETIME

The number of years the project is expected to deliver greenhouse gas abatement

Things to consider

Infrastructure projects:

- Often use the life of the asset as a guide

Behavioural change projects:

- Can be difficult to forecast the duration of the changed behaviour
- Can be variable

FULL PROJECT COST

Upfront Capital Costs	+	Ongoing Operational Costs	+	Cost of Finance

Things to consider

- Installation costs
- Future maintenance costs
- Speak with suppliers for estimates
- Speak with Finance Manager for approach to Financing
- Discount rate

PROJECT SAVINGS

| Revenues | + | Reduced Operational Costs | + | Asset Salvage Values |

Things to consider

- Less resources being consumed
- Less man hours required
- Cost of resources over various timeframes
- Renewable Energy Buyback Schemes
- Discount rate

EMISSIONS ABATED

Resources Saved   x   Emissions Factor

Things to consider

- Have already measured our resources (under project savings)
- What emissions factor to use?
- Discount rate

OTHER CONSIDERATIONS

Secondary effects

- Ie, increasing community recycling will reduce landfill emissions, but increase recycling fleet emissions

Avoided purchase of offsets

- This may be a project saving if your council offsets all emissions

Project dependencies

- Timeframes or orders to implementing projects
- Ie, a project to reduce organics in landfill may affect the feasibility of landfill gas capture

THE DEMONSTRATION

MORE INFORMATION

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