YOUR GUIDE TO SUSTAINABLE BUSINESS IN FOOD

AVOID • REDUCE • REUSE • RECYCLE
Food SA

Food SA was established in 2010 through the merger of long running industry associations – Food Adelaide and Flavour SA - bringing together the memberships, roles and staff and drawing domestic and international marketing and business development expertise into a single focal point and service delivery source for industry.

PO Box 124 Glenside SA 5065
Plant Research Centre, Waite Campus
2b Hartley Grove Urrbrae SA 5064

Telephone: +61 8 8303 9435
Email: contact@foodsa.com.au
Web: www.foodsa.com.au

Zero Waste SA

Zero Waste SA, established by the Zero Waste SA Act 2004, provides strategic policy advice and direction to government and stakeholders. It undertakes programs and projects that maximise waste reduction and promote recycling and sustainability. It engages with the community, business and government, building partnerships for change.

GPO Box 1047
Adelaide SA 5001

Telephone: +61 8 8204 2051
Email: zerowaste@zerowaste.sa.gov.au
Web: www.zerowaste.sa.gov.au


© Food SA and Zero Waste SA

The content of this guide is believed to be correct at the time of writing. However, factors are subject to change and readers should make their own enquiries to confirm the current situation. This guide does not claim to be exhaustive. While steps have been taken to ensure accuracy, Zero Waste SA and Food SA cannot accept responsibility or be held liable to any person for any loss or damage arising out of, or in connection with, the information being inaccurate, incomplete or misleading. It is the responsibility of the potential user of a material or product to consult with the supplier or manufacturer and ascertain whether a particular product will satisfy their specific requirements. The reference to a particular product or company does not constitute an endorsement by Zero Waste SA or Food SA and Zero Waste SA or Food SA cannot guarantee the performance of individual products or materials. This document may be reproduced in whole or part for the purpose of study or training subject to: the inclusion of an acknowledgement of the source; it not being used for commercial purposes or sale; and the material being accurate and not used in a misleading context. Reproduction for purposes other than those given above requires the prior written permission of Zero Waste SA and Food SA.
Contents

Introduction to this Guide 3
Structure of this Guide 4
Understand why sustainability is crucial for the success of your business 5
Try this exercise: how does your business rely on the environment and community? 6
Stage 1.0: Focus on processes 7
  Step 1.1 Set a performance baseline 8
  Step 1.2 Conduct a site inspection of processes 9
  Step 1.3 Identify actions to improve process performance 10
    1.3.1 Staff practices 10
    1.3.2 Process management and control 11
    1.3.3 Equipment change 15
    1.3.4 Harnessing alternative power and water sources 17
Stage 2.0: Focus on procurement and products 19
  Step 2.1 Evaluate your relationship with suppliers 20
  Step 2.2 Set clear objectives and expectations 22
  Step 2.3 Explore alternatives 24
Stage 3.0 Packaging and labelling 26
  Step 3.1 Packaging 27
  Step 3.2 Communications and labelling 29
Evaluation 31
Implementation 33
Monitoring and review 34
Case studies with a focus on process improvement 35
Case studies with a focus on procurement and products 36
Welcome to Your Guide for Sustainable Business in Food.

This Guide has been created through a partnership between Food SA and Zero Waste SA, with help and input from food industry members. The aim is to help South Australian food businesses to adopt positive environmental and social outcomes and still be profitable.

The Guide aims to help those food processing and food manufacturing businesses that are new to, or in the early stages of, considering the environmental sustainability of the business.

By using this Guide you’ll get:

• an understanding of how to think practically and with a sound business mindset for incorporating the right level of sustainability into your business

• a basic decision-making process to help you take the right steps at the right time for improving your business’ performance, primarily in the areas of:
  » increasing energy, water and materials efficiency, and reducing waste
  » engaging with producers, suppliers and service providers to improve environmental sustainability right through your supply chain
  » engaging with retailers and consumers to promote your business’ sustainability aspirations and achievements
  » engaging and involving staff in the decision making process
  » the importance of monitoring, evaluation and continuous improvement.

• plenty of links to additional practical information and advice on where to find support for taking action.

The structure of this Guide is shown overleaf, which includes: an overview to assist with prioritising sustainability for your businesses; Stages 1, 2 and 3, each with a unique focus; and sections on Evaluation, Implementation, Monitoring and Review kept separate, as these activities are relevant to Stages 1, 2 and 3.

The Stages are listed in the order that most businesses tackle sustainability challenges, but it’s up to you to choose where you want to begin, as this will depend on what your organisation has already achieved.
Structure of this Guide

<table>
<thead>
<tr>
<th>Overview</th>
<th>Understand why sustainability is crucial for the success of your business: how your business impacts on the environment and community, and the potential benefits of improving environmental sustainability performance.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 1</td>
<td><strong>Focus on processes:</strong> understand how your company uses energy, water and materials and creates waste, determine your baseline resource usage, and get advice on how to make improvements.</td>
</tr>
</tbody>
</table>
| Stage 2  | **Focus on procurement and products:** understand the impacts of your suppliers and what your customers want; get advice on how to incorporate sustainability into your supply chain and product range.  
For businesses that outsource packaging, Stages 2 and 3 are complimentary, as there are hints about how to engage suppliers in Stage 2 and suggestions about packaging design and supply in Stage 3. |
| Stage 3  | **Focus on packaging and labelling:** understand how to incorporate sustainable practices into product packaging, and how to communicate sustainability through labelling and good communication with consumers and suppliers.  
For businesses that outsource packaging, Stages 2 and 3 are complimentary, as there are hints about how to engage suppliers in Stage 2 and suggestions about packaging design and supply in Stage 3. |
| Evaluation | Advice on what to consider when evaluating options. |
| Implementation | Advice on implementing environmental sustainability action. |
| Monitoring and Review | Advice on how to monitor and review progress, including hints for setting up a Green Team. |

Production of this Guide has been fully funded through the Zero Waste SA Industry Program which advises and supports organisations to achieve sustainability goals in waste, water and energy.
Understand why sustainability is crucial for the success of your business

The rules of the game of food production are continually changing: market conditions change, business expenses change, technologies change. Future financial performance is being seen as linked to social and environmental performance. Rising costs are squeezing many business’s profit margins.

Pressures include:

• rising costs of labour, energy, water and materials
• rising costs of waste management services
• customer and supply chain desire for good environmental and social performance
• changing environmental regulations
• competing products/substitutes including overseas-based lower cost labour
• the dominance of some retail sector markets
• keeping good, well trained staff focussed in your business
• maintaining productivity.

The good news is by adopting practices that are both practical and commercially sensible, your business can put itself in the best possible position to realise many benefits that actually lead to better business performance.

Adopting sustainable practices could lead to:

• reduction of direct and indirect operating costs through improved resource efficiency
• access to new markets with new products (local and international)
• creating a ‘price premium’ for superior products
• attracting and keeping the best and brightest staff
• getting the support of customers and the community
• accessing capital for investment and growth
• opening doors for better working relationships with suppliers, government and other partners.
Try this exercise: how does your business rely on the environment and community?

**There are four components, or ‘domains’ to creating a sustainable business:**

- Marketplace – having a strong base of customers and getting paid in a timely fashion
- Workplace – managing a productive and cohesive team of employees
- Community – maintaining positive relationships with the local community
- Environment – ensuring the business operates with the smallest environmental footprint possible

**For each domain, ask yourself, and write down answers to the following:**

- What do we take from the domain to run our business? And what do we give back?
- Is our relationship to the market/workplace/community/environment sustainable? If not, what would need to change?
- What might the business stand to gain by improving its performance in this domain? For some ideas on answering this question and to help put forward a business case for sustainability, consider the following drivers/benefits of sustainable practices:

![Value Creation Drivers](image)

Do you know which have the greatest impact to your business’ bottom line; to the environment; to the community; to your customers and suppliers?

It’s worth considering these things when making decisions about what aspects of sustainability you want to tackle.

You’ll need to prioritise your actions, as most businesses can’t afford to do everything at once.
Focus on processes

UNDERSTAND NOW
Do you know your business’ baseline resource usage / output (energy, water, waste, carbon)?
  - Does someone monitor and record consumption of resources?
  - Does someone monitor and record the amount of waste generated or taken for disposal?

[prompt]

UNDERSTAND WHAT AND WHERE
Do you understand how and where business processes use energy and water?
  - Do you know which processes use the most resources?
  - Do you know how staff behaviour or physical layout affects resource use?
  - Do you know how much waste is produced, which processes produce it and where?

[prompt]

UNDERSTAND HOW TO GENERATE IMPROVEMENTS
Do you have a bucketful of ideas or a way to generate improvements in environmental performance and resource efficiency?

[prompt]

Where would you like to make improvements?

- I.3.1 Staff Practices  low upfront cost  high effort
- I.3.2 Process Management and Control  medium upfront cost  medium effort
- I.3.3 Equipment Change  high upfront cost  low effort
- I.3.4 Harnessing Alternative Power and Water  high upfront cost  medium effort
Many organisations have been through this exercise, so you do not need to start with an empty sheet of paper - a worksheet to help you is available from [http://bit.ly/JyRrk](http://bit.ly/JyRrk).

Scroll down to the Self Assessment section; select Worksheets Checklist and refer to page 2, Baseline Assessment Data Collection.

To get started with managing energy and water consumption, and waste and carbon emission production you need to understand what you are doing now and what effect this is having on your business.

This is establishing a baseline. You need to know all the energy, water and materials entering your business and all the waste leaving it.

Charts such as the one shown below are common outputs that can be easily created from a baseline and help to quickly illustrate how your business is performing and to set priorities for improvement.

Have you considered carbon? It is important to know your carbon emissions level and in what ways your business contributes (e.g. energy use, refrigerant gases leakage, industrial processes and/or organic waste by-products). Your business can reduce its ‘carbon footprint’ by managing energy, water and waste as well as by having good machinery maintenance programs.

Some larger businesses engage an external expert to conduct a resource assessment or audit to set a baseline. These normally provide quantifiable details and help to identify specific opportunities. Other businesses may want to conduct an assessment in-house, for which there are guidelines next.

**Company X solid waste profile 2010-11**

- **Comingled recycling 60%**
- **General waste 18%**
- **Organic waste 22%**
Conduct a site inspection of processes

A site walk-around (inspection) will help you build a good picture of exactly where and how energy, water and materials are being used and where waste is being produced.

Walk around the site taking notes about how the day to day activities use resources. Build a picture of where resources (energy, materials, water) are used and where waste is produced. Take photos for later discussions and brainstorming.

One approach is to start where the ingredients come in, and follow the trail of activities.

Consider equipment, pumps, production lines, use of facilities such as lighting and plumbing, safety, IT and office equipment. Consider logistics, distribution and maintenance issues.

What equipment uses lots of power or water? Typical resource-intensive plant equipment include refrigeration and HVAC plant, cooling towers, boilers, air compressors, ovens and dryers, mixers, motors, pumps and fans.

Quick questions to use for site inspection:

- Where are product or resource losses happening (energy, water, liquid and solid waste, heat)?
- Are processes located in the best place to do the task and is each workflow efficient?
- How are staff behaviours reducing or increasing efficiency and wastage?
- Is cleaning and maintenance happening efficiently and often enough, and are there any signs of equipment in disrepair?
- What resources are in each workplace or facility area to manage resources and waste (e.g. coloured bins, movement activated lights, automatic timers and settings)?
- What formal procedures are in place and do they help?
- Are the systems that are in place good at managing safety, environmental hazards and wastage?

More information available:


Want help?
Contact Zero Waste SA, Food SA or independent resource and environmental consultants for support with resource assessments and auditing.
Now that you have an understanding of how your business uses resources and generates waste, what can you do about it? You can improve process efficiency through actions related to:

- staff practices
- process management and control
- equipment change, including modifications for heat recovery
- harnessing alternative sources of power and water.

1.3.1 Staff practices

You can engage staff, harness their knowledge and introduce responsibility for assisting the business to improve process efficiency.

**Housekeeping and maintenance activities can involve operational staff**

- Brief daily start-up / shut-down checks of seals, pipes and potential blockages.
- Periodic equipment checks such as servicing, fluid top ups and dosing.
- Cleaning of belts, air flows, conveyors, filters coils and vents (or anywhere else with moving parts, heat, fluid or air flow).
- Regular monitoring checks of energy, water use and waste management systems e.g. bins are located in the correct areas, monitoring water consumption and meters to help identify losses (integrate this with Hazard Analysis and Critical Control Points (HAACP) if possible).
- Procedures to calibrate and clean monitoring and sensors regularly.
- Team meetings with resource efficiency as a regular agenda item.

**Train and raise staff awareness**

- Use signs to remind staff what to do and to remind them that it is important (e.g. close doors and display cases, switch off lights and equipment, turn off taps in washrooms and kitchens).
- Label bins to show what goes where.
- Invite an expert or industry peer to talk about their work or their energy saving successes (e.g. invite equipment or waste contractors to help staff understand what is needed).
- Train staff in machine use, shut down procedures and/or cleaning procedures.
- Give staff members the Eco-Efficiency Checklist to complete and consider (available from http://bit.ly/JyArkm - scroll down to the Self Assessment section; select Opportunities Checklist).

**More information available:**


Water Industry Alliance provides useful information and a directory of service providers to businesses in water management, education and training. See www.waterindustry.com.au.

Information sheets, case studies, water efficiency tools and contact information are available through http://bit.ly/JsNwWj.

See Zero Waste SA website for a range of resources and support for businesses wanting to improve their waste management practices, including recycling.
1.3.2 Process management and control

Refrigeration plant often consumes between 30% and 70% of food businesses energy use.

The compressor is the most energy intensive component in refrigeration systems often accounting for more than 90% of energy used. An increase of 1°C in evaporating temperature or a reduction of 1°C in condensing temperature can increase the efficiency of the compressor by 2% to 4%.

Natural gas produces less than 75% of the carbon dioxide emissions of diesel and less than 60% that of black coal for the same amount of energy in combustion.

Note: It is important to discuss changes to equipment settings, and fuels with service providers to ensure the change fits within optimal operating conditions and avoids damage.

You can implement monitoring practices and procedures to improve the efficiency of existing processes.

A lot of energy, water and goods can be wasted in processing when work is done that doesn't need to be, equipment is sitting idle, there are delays between useful tasks, or equipment is working harder than it needs to be. To improve efficiency and reducing operating costs, consider the following points:

Fine tune existing processes

Is equipment running unnecessarily, standing idle between jobs or not being fully utilised? Try:

• turning off equipment when not in use, or equipment that is on standby for long periods
• installing automatic light and other sensors
• increasing natural light to work areas and/or remove excess lights
• minimising start up and run time of equipment that uses a lot of power or water such as ovens
• matching batch sizes to capacity for equipment that uses a lot of power or water.
Is equipment running harder than it needs to? Try:

- Checking manuals and food safety requirements and/or seek expert advice on optimum settings, for example:
  - set air conditioners higher in summer (25°C) and lower in winter (20°C)
  - set hot water systems to minimum allowable temperature
  - set refrigeration system evaporator temperatures as high as possible
  - set condenser temperatures as low as possible.
- Minimising heat losses by pre-cooling items that will be refrigerated or frozen, isolating cooled areas and insulating pipes.
- Separating hot process locations from cold process locations.

Is water being used unnecessarily? Try:

- thawing in the refrigerator, in baths, or air defrosting freezers instead of using running water
- reducing defrost cycles if possible
- using waterless lubricants on conveyors
- using sanitising agents or low water options for cleaning and rinsing (e.g. high pressure cleaners or ‘gas-pigging’ in pipe work)
- adjusting hose sizes; install trigger nozzles, high efficiency sprayers, flow restrictors, timers and automatic control or shutoff valves to reduce water consumption
- scheduling production change-overs to reduce cleaning
- set the conductivity/cycling set point in cooling towers to highest allowable limit to reduce water discharge.

More information available:

For a range of opportunities in common equipment see the collection of Utility efficiency fact sheets in the Eco-Efficiency in the Queensland food processing industry resources. The Utilities– Overview fact sheet provides a summary listing at bit.ly/L2J9nh


NOTE: you will need to register via the link on this website to get login details to access this guide - it’s free.
Improve warehouse and distribution efficiency

• Keep access to regularly used items easy.
• Lay out stores and warehousing, and plan routes and access modes to reduce equipment and fuel use, product handling and processing delays.
• Train staff in efficient vehicle use.
• Pack ‘lighter and tighter’, consolidating loads, shipping in bulk, removing unnecessary packaging or developing new packaging.
• Fill empty-truck on return trips (e.g. with collections of another company – either as an in-kind transaction or for a fee).
• Investigate logistics management software tools and providers.

Consider fuel switching opportunities

• On-site renewable energy sources (wind, solar, recovered food/organic waste).
• Use purchased biofuels, biogas or biodiesel mixes.
• Check green and renewable electricity options with energy retailers.
• Check the quality and impact of consumables that may affect efficiency (e.g. refrigerants) as these affect carbon footprint.
• Look at the whole fuel picture (facility, transport, distribution, fleet and travel) for efficiency opportunities.
Improve goods and waste management

- Identify causes and solutions to oversupply, reject or excessive waste issues (e.g. through better scheduling or measurement).
- Find out if alternative chemicals or consumables might reduce waste and wastage.
- Discuss with suppliers if their packaging can be reduced (bulk delivery, removable or returnable linings, and recyclable options).
- Consider donating food to organisations such as Foodbank or OzHarvest if the oversupply meets HACCP requirements.
- Consider potential to sell waste for animal feed or by-products extraction.
- Create compost or install a worm farm.
- Strategically place clearly labelled, right sized bins and bulk bin systems.
- Consider additional compacting, handling and storage facilities for larger volume or odorous or hazardous wastes.
- Discuss options and formalise agreements with waste contractors and other partners for timely collection, recycle, disposal and support services such as renting bins, training and reporting.
- Prepare procedures and training for waste management, monitoring and reporting.

Consider each waste issue and opportunity in the following order, as shown in the waste management hierarchy opposite

- Can you avoid creating the waste (then you won’t have to deal with it)?
- Can you reduce the amount of waste produced?
- Can the waste product be reused, either internally or by another organisation?
- Can the waste product be recycled, and if so, where can it be recycled?
- Can the waste be recovered as an energy source?

More information available:


1.3.3 Equipment change

Did you know that the cheapest option in the short term may cost you money in the long term?

Electric motors will use four to 10 times their purchase price in electricity annually.
High efficiency equipment will normally offer cost benefits on top of energy or water savings, such as reduced noise, extended life and reduced maintenance.
New LED lighting has a higher capital cost but lasts (on average) five to 10 times longer than existing fluorescent and halogen lighting. They use only a fraction of the power (typically less than 40%) and produce much less heat.

You can improve equipment to help improve resource efficiency – consider the following:

Design new plant and equipment well

- Understand exactly what your business hopes to achieve through the new equipment.
- Consider if scheduling or other improvements could achieve the same objectives (e.g. recovering heat, using air chillers instead of water chillers, changes in resource use).
- Examine efficiency of new equipment and whole of life costs and benefits to your business.
- Consider the fuel efficiency of fleet vehicles over time, rather than just purchase price.
- Talk to the provider to match the system with your needs (sizing, configuration, location and space).
- Consider smaller, more efficient equipment options (e.g. compressors) near the point of work, rather than assume one large system to satisfy the entire needs of the process.
- Ask about the distribution pipe work and lines and installation to minimise losses through obstructions, pressure drops or heat loss (no dead ends or long circuitous routes).
- Discuss automatic controls that respond to changing conditions such as pressure, temperature, light or flow rates (e.g. variable speed drives, occupancy sensors, dimmers) and how these might reduce resource use.
- Discuss how the plant may be installed to optimise efficiency (e.g. trimming pump impellers, monitoring boiler flue temperature / gases or assessing and correcting for poor power factors or electrical plant).
- Design equipment layout to minimise water and cleaning requirements, such as using mechanical seal pumps instead of water sealing pumps.

More information available:

Eco-Efficiency for Queensland Manufacturers website Utilities– Overview list of fact sheets for specific major plant and utility equipment commonly used in food processing plants and Water Efficient processing at http://bit.ly/L2j9nh
Motor Solutions Online can help you to make choices about electric motors at http://bit.ly/LcR6pq
SA Water’s website contains information sheets, case studies, water efficiency tools and contact information at http://bit.ly/JsNwWJ.
The Department of Sustainability, Environment, Water, Population and Communities Tools for Planning Water Efficiency website are found at http://bit.ly/KYw8dE
The Savewater Alliance website www.savewater.com.au has useful support material.
Converting waste heat to energy

In many food businesses, heat given off by one process can be captured and fed back to other nearby processes. This can create substantial energy savings. Heat recovery is achieved by passing hot exhaust or liquids through a return process or by using a heat exchanger. How much heat you can use depends on how much heat can be recovered and how far it needs to travel.

Air compressors for example lose more than 80% of their electrical supply as heat. Capturing this by adding a heat recovery system may cost 10% of the compressor’s purchase price but can pay for itself through electricity savings in less than a year.

Recover useful energy by:

- identify areas of surplus heat production and consider ways to use the excess heat
- use heat from compressors to heat water or air for general use or cleaning or defrosting
- use boiler blowdown water and heat from flue gases to preheat water going to the boiler
- collect steam and add the condensed water to feed flows.

More information available:


1.3.4 Harnessing alternative power and water sources

Power

Installing onsite renewable or high efficiency energy sources can increase your business's resilience.

This can protect from exposure to volatile energy markets and reduce dependence on mains or fossil fuel sources. It offers protection from power failures and cuts your carbon footprint.

Onsite sources may have a significant upfront cost but, depending on the market and technology, can offer long term cost benefits.

Are there other local businesses that may be interested in cooperating to install generation equipment and share the costs? Remember that some energy suppliers have an interest in the shared equipment and may be willing to enter an agreement.

- Consider solar photovoltaic for electrical energy and solar water preheating.
- Examine the suitability of climate conditions for wind power (regional areas in particular) and potential costs and benefits for your business.
- Examine the options of co-generation and tri-generation plant that are high efficiency generator engines that provide electrical energy and heat energy (tri-generation also produces chilled water through an absorption chiller).
- Consider the business's suitability for direct energy recovery from biomass combustion (burning of organic matter).
- Talk to energy experts about all the options.

More information available:

Water

There are many production and facility processes within food businesses that do not require potable water.

Activities such as steam and cooling systems, wash down, staff toilets and irrigation can use recycled, recovered and local water supplies.

Note you should always talk with experts to avoid damaging equipment or affecting operations specifications.

- Understand the water quality needs of different processes.
- Install rain water tanks to capture water from large roof areas or sealed areas.
- Talk to larger nearby businesses to see if they have water excess to their requirements.
- Examine opportunities to recapture and recirculate water throughout your processes.
- Enquire about licensing arrangements for bore water use with your local Natural Resource Management Board in line with the relevant regional Water Allocation Plan.
- Contact SA Water and local councils about nearby recycled or treated water systems (e.g. Mawson Lakes, Glenelg to Adelaide Parklands system).

More information available:

See the Water Industry Alliance at www.waterindustry.com.au
See SA Water’s website’s information sheets, case studies, water efficiency tools and contact information at http://bit.ly/JsNwWJ.
**STAGE 2.0**

**Focus on procurement and products**

1. **RELATIONSHIPS**
   - Do you know the level of sustainability awareness and performance delivered by your suppliers?
   - **NO** Go to Step 2.1
   - **YES**

2. **OBJECTIVES**
   - Do you have clearly defined objectives and expectations for sustainability performance that are well understood by your suppliers?
   - **NO** Go to Step 2.2
   - **YES**

3. **ALTERNATIVES**
   - Do you know what’s important to your customers and how can you protect and enhance that?
   - **NO** Go to Step 2.3
   - **YES**

   Do you know how you can identify consumers and retailers that have an interest in sustainability?
STEP 2.1 Evaluate your relationship with suppliers

Getting to know your supplier’s environmental and social impacts allows you to make more informed choices about your processes and use of resources.

You will better understand the risk and costs that the supplier may bring and you will be able to find out what influence you may have as a customer. Look for better purchasing decisions and look for win-win solutions with your suppliers.

Consider the relationship your business has with its suppliers, and determine which suppliers are most significant by making a list of how much you buy (volume) and how much you spend over a specific period of time (or by listing the significant inputs such as materials, utilities and service providers).

Hold a team working session to pool knowledge and discuss how the supplies make an impact – consider the following:

• How much do you know about the processes that produce the items identified?
• Consider the journey these materials have been on to get to your door.
• Are these goods the best and most sustainable options (safe, high quality, minimising environmental harm)?
• Do the processes used include hazardous chemicals?
• Where do the suppliers get their raw inputs and is this traceable?
• Are international agreements, human rights and regulations being met in their procurement?
• Do the methods of transport and delivery ensure high quality and minimise pollution?
• Do the waste contractors help you to separate and manage your waste streams?
• Think about your relationship with suppliers as a customer and valued part of their business. Is your account well managed? Is your business in a position to negotiate or discuss future planning with them?
• Consider the sustainability and availability of the supply in the long term (unsustainable harvesting, climate, droughts and floods).
• What impact might ongoing price volatility and carbon pricing have on these inputs?

Prioritise and start to talk to your key suppliers about any gaps, concerns and opportunities that may have been identified. It never hurts to get the ball rolling and ask.

EASY IDEAS

• Have a team meeting and pool your knowledge
• Prioritise those things important to the long term interests of your business and your customers
• Get together or create your marketing group to consider what your customers want and expect from your business
• Brainstorm ways to find out information
• Ask what safer, better alternatives are out there to do the job
• Ask your team how your suppliers could help you to achieve your objectives
• Ask how your contractors and service providers could help you to make decisions for the future!
More information available:

Want help?
You can also choose to ask an external service provider to help by formally auditing your procurement practices. Zero Waste SA can put you in touch with a relevant consultant.
**STEP 2.2**

**Set clear objectives and expectations**

Do you have clear expectations and objectives that your suppliers can understand and follow?

Setting priorities and expectations for procurement allows a business to make purchasing decisions that support its objectives and its risk management. A clear statement of the desired environmental and social outcomes allows constructive conversation with suppliers about future plans. This also demonstrates the business’ commitment and intentions to staff, suppliers, the public and the market place. So think and discuss objectives with stakeholders inside your business before taking any requests or discussions to suppliers.

The ability to develop formal systems and analysis depends to some extent on the size and structure of the organisation. Consider the following suggestions and decide which would help your business.

- Consider your objectives as a future planning exercise for your business.
- Create an internal sustainable procurement policy or a sustainability checklist for sourcing goods and services.
- Investigate the possibilities for certification and labelling that could be used as standards for choosing supplies or suppliers.
- Create a supplier evaluation checklist or code of conduct.
- Discuss the checklist with suppliers and work through the issues and expectations with them, highlighting the benefits and aspects that need more investigation.
- Plan a tour for suppliers to show them what you are planning to do and achieve, rather than only use formal communications.
- Remember suppliers may be further along the path in some areas than you are and together you may be able to resolve issues.
- When you are clear on your sustainability objectives formalise some of these in service contracts through performance clauses.
- Ask energy, water and waste management suppliers about their ability to report about their performance and about industry benchmarks.

**EASY IDEAS**

- Check out the Eco Buy website for examples and information on sustainably oriented products
- Check out Walmart’s Supplier Sustainability Assessment
- Discuss your objectives with your suppliers and discuss their objectives too
- Hold a joint team working session with suppliers to brainstorm solutions to issues you identify through your planning
- Share this toolkit with key suppliers
- Talk costs little, so talk to suppliers about their own sustainability efforts
- Sourcing locally can reduce carbon footprint and transport and storage costs
- Asking your suppliers about sustainability helps them to make and justify their own decisions about sustainability and alternative sourcing
More information available:

See www.ecobuy.org.au for a searchable database of suppliers of sustainable products and check out the ‘miscellaneous’ category, for things like ‘food packaging’ suppliers.

Walmart’s Supplier Sustainability Assessment Checklist can be viewed from http://bit.ly/EdY3c

Talk to Food SA if you would like assistance in coordinating or facilitating supplier discussions.

Environmentally sustainable solutions can benefit your business in many ways.

They can reduce (improve) environmental impact, drop resource cost per item made, and reduce carbon footprint. They can demonstrate environmental responsibility in a traceable way. They offer customers a ‘well-being factor’ through perceived social and nutritional benefits.

Being able to demonstrate environmental performance as well as quality opens markets that prefer (and are willing to pay extra for) sustainably produced food products. Not all customers will support higher pricing, but many will genuinely support comparably priced alternatives.

Here are some key steps and tips you can use to explore how to create a product offering, or refine your existing product offering that is both environmentally sustainable and profitable.

**Tune into the core demands of your customers**
- Find out what you can about why customers prefer your product or a competitor’s product.
- Understand the customers’ core demands for your food and how you can protect that.

**Look at what’s possible in the supply chain**
- Look for ways that environmentally sustainable methods can enhance your product and make it more desirable, the same or better quality and help make your offerings more profitable.
- Talk with your suppliers about the supply chain and possible alternative inputs to your product, e.g.:
  - Is it grown using sustainable farming methods (minimal pesticides, drip irrigation, biodynamic farming, topsoil protection)?
  - Is it processed with energy and water efficient processes?
  - Is it, or can it be sourced locally?
  - Can the supplier tell you the CO₂ (carbon) emissions per unit supplied to you?

**Easy Ideas**
- Think about why your customers buy from you
- Get a marketing team together to find out the answers
- Ask your customers about how they would feel about changes to the product
- Sourcing locally can reduce carbon footprint and transport and storage costs
- Ask what environmental or social outcomes would bring customer loyalty
How to find out what customers want

• Ask what your customer wants from your business (brand, marketing, chemical-free, packaging and sustainability)?
• Pick up the phone or use Facebook to talk with customers about how they might react to value adding measures such as:
  » choosing feedstock with better environmental sustainability
  » being socially responsible about sourcing, such as Fair Trade or sustainable development
  » local sourcing and support to the local economy
  » biodynamic, organic or unique health and lifestyle alternatives
  » low carbon or carbon neutral products and labels
  » water smart products
  » supporting a company that supports the environment.

More information available:
Sit back and read What’s in a Label in the CSIRO Ecos Magazine at http://bit.ly/KsQlpA
If packaging is a procurement item, refer to Stage 2 (in conjunction with the information provided in Stage 3) for advice on how to engage suppliers to deliver sustainable packaging options.

**Packaging and labelling**

---

**Packaging Design**

Do you know how the environmental impacts of your packaging could be reduced?

Have you considered packaging design, recyclability, and stewardship?

---

**Communications and Labelling**

Do you know how to get your sustainability message across to staff, community, consumers and suppliers?

---

If **NO**

Go to Step 3.1

If **YES**

Go to Step 3.2
Packaging is critical to marketing and sales. Sustainable packaging makes efficient use of materials and does not create waste once it is no longer used as packaging.

As well as preserving quality, purity and freshness, it represents your brand and what your business stands for. It is recyclable, reusable or decomposes. It has benefits because sustainable packaging meets customer desire to avoid excess packaging, meets supply chain requirements for retailers with their own guidelines and requirements, reduces costs, differentiates your business and improves reputation for corporate responsibility.

You have three main tools that you can enlist to help
- Packaging design
- Recycling
- Product stewardship

Packaging design
- Consider how your packaging could be redesigned to avoid or minimise the use of materials without compromising quality.
- Think about how to use less material, less packaging, less energy and water.
- Think about reducing the weight and density of packaging.
- Investigate packaging made from recycled materials.
- Investigate packaging that has been made using renewable resources or low energy use (‘low embodied energy’) materials.
- Review if any hazardous materials are used in current processes and identify how these could be eliminated.

EASY IDEAS
- Look at your current packaging and consider its components for quality, energy use and usefulness once your product has been consumed
- Consider how transport packaging may be contributing to your costs
- Evaluate using recycled materials
- Consider interacting with the community about recycling opportunities
- Find out if there are markets for the used packaging
- Examine the message your labelling is sending about packaging
Design for:
• decomposition once disposed
• reusable, easy to clean and durable materials
• recyclable with fewer types of materials and easy to disassemble
• easy transport, stackable and minimal transport packaging needs.

Recycling options
• Consider if your market is close enough to take back packaging/containers for recycle or reuse.
• Look to see if there are markets for the packaging once its job with your product is done.
• Consider the materials used for recyclable content.

Product stewardship
• Consider how labelling can encourage customers and consumers to recycle or safely dispose of packaging.
• Investigate how your business could support community based recycling programs.

More information available:
See the Australian Packaging Covenant (APC) Sustainable Packaging Guidelines for useful design principles and strategies at www.packagingcovenant.org.au.
Check out the Eco-Efficiency in Queensland’s Reducing Packaging and Reusing and Recycling Packaging at http://bit.ly/L2J9nh
Also see Australian Food and Grocery Council: http://bit.ly/cfrBcY,
A recent market research survey by the Mobium Group indicates that the Australian market for Lifestyles of Health and Sustainability (LOHAS) goods and services will reach $A27 billion by the end of 2012.

This is a sizeable market and a significant opportunity for food businesses with a sustainability edge. Once significant progress on environmental performance is achieved, the business needs to communicate the good news to the market place, staff and stakeholders. For some products, certification and labelling helps consumers to make sustainable choices and opens access to lucrative and loyal market segments.

You have three main tools that you can enlist to help

• Tell your product’s story
• Labelling and certification
• Partnerships within the community

But remember, you must be honest about how far your business has come in sustainability.

Tell your product’s story

• Be clear about the story behind your products, and make sure the story will connect with your customers (consider language and complexity). Try telling it in a fun, interesting storytelling format – people love stories. It’s also important to be honest about how far your business has come in sustainability, as stretching the truth may create distrust amongst your customers. Here are some ideas for your story:
  » use Facebook and/or your website to get the story out to the community
  » explain why the business has adopted sustainable practices
  » let the achievement be fun and part of a journey
  » talk about how it meets your customers’ needs and concerns
  » acknowledge the journey on labels.

Product labelling and certification

• Look into the relevant eco-labelling programs operating in Australia (50 or more current at the time of publication) - some of the most popular are listed below:
  » Carbon Reduction Labelling (Planet Ark) (www.carbonreductionlabel.com.au)
  » Marine Stewardship Council (MSC) certified (www.msc.org)
  » RSPCA-approved Farming labelling (e.g. for Free Range) (http://bit.ly/Kegpfm)
  » Fairtrade certified (www.fta.org.au)
  » Forest Stewardship Council (especially for packaging) (http://bit.ly/cfrBcY)
• Select those that are most relevant to your business, and current and potential market opportunities, and investigate these in more detail.
• Based on this investigation, choose wisely those that could benefit your business.
• Consider what the business will need to achieve in order to access these and what investment in time or money it might take.

Partnerships in the community
In some ways, being advocated for is a much more powerful message than touting your own credentials. Creating partnerships with the community can be a great way to get your message out there, so here are some ideas for engaging with the community.
• Meet with local community and environmental groups and tell them what you are doing and why.
• Gather and harness community support for what you are trying to achieve.
• Explore possible appropriate sponsorships or special projects that give the groups a chance to advocate for your product.

Be honest
• Deceit or truth stretching may work against your objectives and create distrust in the future.
• Be careful not to 'greenwash' (i.e. make claims about your product’s green credentials without being in a position to prove or justify it) or appear to be ‘greenwashing’.
• Even accidental overstatements can cause damage to a brand for a long time.
• Document what you are doing and only claim what can be evidenced from your records and processes.
• Be honest about what is still to be achieved and how you hope to get there.

More information available:
Sit back and read What’s in a Label in the CSIRO Ecos Magazine at http://bit.ly/KsQ1pA
Evaluation

No business can make all the changes and access all of the opportunities at once.

Some changes may not suit your business at this time. Some may be beyond the means of the company under current market conditions or company resources may need to be gathered first.

Consistent methods of evaluating opportunities that you identify will help you make informed management decisions that best fit your current situation, constraints and priorities. Evaluation needs to consider potential benefits, potential risks and the resources needed to bring about the change.

Once you’ve selected a list of potential actions to improve the sustainability performance of your business, it’s important to evaluate them with a sound commercial mindset. Below is a basic procedure to help you evaluate your opportunities.

1. WHAT AND WHERE
   • What’s the idea or action (be specific)?
   • Where in the business will it be implemented (be specific)?

2. WHY
   • Why is adopting the action important for the business?
   • What does the business stand to gain from adopting this action?
   Count as many benefits as you can.

3. HOW
   • How will the action be implemented and over what time frame?
   • What’s the upfront cost for implementing this action and can the business afford it?
   • How much time might be required from staff to implement this action?
   • What other risks (asides from investment) might it bring to the business that needs to be managed?
   • How will success be measured?
   Count as many actual and potential costs as you can.

4. WHEN
   • Is the business ready to take-on this action?
   • For the costs and benefits it presents, is this action suitable for the business right now, or are there other actions worth pursuing?

When evaluating the benefits, think about:
- Product quality
- Customer response
- Competitive advantage
- The environment
- Productivity
- Flexibility and resilience to change
- Supplier relations
- Health and safety and staff culture
More information available:

Useful templates for opportunity evaluation can be found in the Eco-Efficiency in the Queensland food processing industry Self Assessment Guide SAG2 Worksheets (Worksheets 9 and 10), which are available at: http://bit.ly/JyRrkm

Scroll down to the Self Assessment section and select Worksheet Checklist – refer to page 9 for relevant worksheets
Implementation

Having identified which changes will best support your business objectives in terms of sustainability and positive outcomes and which you want to focus on first, it is time to consider how the changes will be implemented.

Each business will have different projects to implement – refer to the case studies (pages 35 and 36) for ideas.
Implementing change is all very well, but how will you know if it is successful? How will you support any claims that you make about your business’s achievements in sustainability?

Monitoring and reviewing progress is critical to ensuring implementation of actions stays on-track, and stays within the expected timeframes and budget allocated. To ensure this is done properly, businesses need to have at least two things in place:

1. an Action Plan with a clear timeframe (possibly staged over 90 days, 3 months and 12 months) and measures of success to ensure the actions (when implemented) do what they should
2. someone responsible (an individual or a team) to ensure that the actions are implemented according to the Action Plan.

The monitoring and review phase should be fed back into the evaluation and implementation process to ensure that your business sets a cycle of continuous improvement.

Setting-up a Green Team

Setting-up a Green Team can be a useful approach to managing and monitoring progress. The role of a Green Team is typically to:

• own the plan (of sustainability-related actions) and monitor progress
• engage the company’s staff to help implement actions
• develop future environmental sustainability and/or resource efficiency plans
• promote the benefits of environmental sustainability across the company and stakeholders
• ensure that environmental sustainability remains relevant and important to the business.

Some tips for running a successful Green Team

1. Invite representatives from across the business that have the respect/relationship of employees at both senior and ‘shop floor’ levels
2. Ideally the Chief Executive Officer should be involved (at least for the first 90 days) - a senior manager should also sit on the Green Team to help facilitate action
3. Set regular (monthly) meetings that don’t get cancelled (unless it’s an extremely good reason)
4. Make sure there’s diversity in thinking and opinion

These teams usually consist of volunteers – make sure to reward their contribution, and make sure managers are aware of and approve the time investment required for these staff to participate.
## Case studies with a focus on process improvement

<table>
<thead>
<tr>
<th>Company</th>
<th>Relevant Section</th>
<th>Description and Link</th>
</tr>
</thead>
</table>
| Arnott’s (SA)                | Processes        | Combined energy, waste and water efficiency improvement initiatives within processes has yielded annual savings >$250K.  
| Australian Country Choice (QLD) | Processes      | Energy, water, waste and bio-solids efficiency improvement activities, including the implementation of an Environmental Management System (EMS) has yielded estimated annual savings of >$1 million (before capital expenditure).  
| Capilano Honey (QLD)         | Processes        | Eco-efficiency improvements identified through reduction of product loss, increases in waste recovery, and energy efficiency improvements made to air compressors and air conditioning yielded calculated savings in excess of $120,000 per year. |
| Ferguson Piarre (VIC)        | Processes        | A suite of energy, waste and water efficiency improvements incorporated into their new bakehouse facility and logistics system – everything from heat recovery to hybrid bakehouse trucks. Incorporating all of these initiatives yielded a 100% payback in the first year of operation.  
http://bit.ly/KUFaH8 or  
| FoodSpectrum (QLD)           | Processes        | Eco efficiency improvements (energy, water and waste) identified to yield over $150,000 of savings per year – including checking of leaks in air compressors, regular boiler maintenance, a clean in place (CIP) system for water efficiency and waste management practices. |
| Harvest Freshcuts (QLD)      | Processes        | An eco efficiency assessment identified savings of over $80,000, through initiatives such as increasing the volume of internally recycled water by more than 40 percent with the introduction of a new system; recovering chilled wastewater to pre-cool town water supply; and using reusable plastic crates instead of cardboard boxes. |
| Mildura Fruit Juices Australia (VIC) | Processes | The process achieved eco-efficiency and improved OH&S conditions through modifying existing water recycling, separation of solids from trade waste and a reduction in the volume of cleaning chemicals used.  
| Parmalat (VIC)               | Processes        | 13 resource efficiency improvements identified (for reduced water input and reduced trade waste output) yielding over $50,000 in savings  
| Rocky Point Prawn Farm (QLD) | Processes        | Energy efficiency improvements were made through the installation of pumping controllers (reduced energy by 10%), installing variable speed drivers (VSDs) with their aerators, and improved processing practices. |
| Snap Fresh (Qld)             | Processes        | Water efficiency practices alone yielded over $45,000 of savings per year (with a one-off $23,500 cost).  
**Case studies with a focus on procurement and products**

<table>
<thead>
<tr>
<th>Company</th>
<th>Relevant Section</th>
<th>Description and Link</th>
</tr>
</thead>
<tbody>
<tr>
<td>B.d. Farm Paris Creek (SA)</td>
<td>Product and Procurement</td>
<td>Using Biodynamic Organic farming methods, the company has grown significantly from an increasing demand in the market for more sustainable, healthier cheese products <a href="http://www.bdfarmpariscreek.com.au">www.bdfarmpariscreek.com.au</a></td>
</tr>
<tr>
<td>Barossa Farm Produce (SA)</td>
<td>Product and Procurement</td>
<td>Utilising natural, low-impact farming methods and strict standards with their suppliers on sustainable farming and processing allows them to sell (at a premium) high-quality products. <a href="http://www.saskiabeer.com">www.saskiabeer.com</a></td>
</tr>
<tr>
<td>Clean Seas – Sustainable Seafood (SA)</td>
<td>Product and Procurement</td>
<td>Recognising the critical role that sustainable fishstocks plays to the viability of the business, CleanSeas have rebranded themselves to incorporate ‘Sustainable Seafood’ into their tagline, backed-up by processes, ISO standards and Friend of the Sea (sustainable seafood) certification. <a href="http://bit.ly/oqsCw">http://bit.ly/oqsCw</a></td>
</tr>
<tr>
<td>GoodLife Pizza (SA)</td>
<td>Product and Procurement</td>
<td>Organic gourmet pizza restaurant. They have achieved huge growth in recent years and received the ‘Best Pizzas Award’ every year for the last 7 years -- most customers willingly pay a premium for the pizzas because of their quality (organic and local produce) and are a healthy alternative to competitor pizza offerings. <a href="http://www.goodlifepizza.com">www.goodlifepizza.com - see the FAQ section</a></td>
</tr>
<tr>
<td>Dairy Crest (UK)</td>
<td>Product and Procurement</td>
<td>Working in partnership with Marks &amp; Spencer, Nextek, Wrap and Nampak, Dairy Crest have achieved a world first by creating a food contact approved material that is made from post consumer waste. <a href="http://bit.ly/KyZmmA">http://bit.ly/KyZmmA</a></td>
</tr>
<tr>
<td>Queensland Government</td>
<td>Procurement and Product</td>
<td>The State of Queensland has announced plans to introduce new legislation requiring fast food outlets to display the energy content of foods and drinks on their menus – a move which has already been voluntarily pre-empted by several of Australia’s major fast food chains. Several major quick service food chains in Australia now voluntarily display energy contents on their menus, including Subway, Hungry Jacks, Domino’s, and McDonald’s. <a href="http://bit.ly/Kahj2c">http://bit.ly/Kahj2c</a></td>
</tr>
<tr>
<td>Starbucks (US)</td>
<td>Product and Procurement</td>
<td>Starbucks are funding The Beta Cup challenge – an open challenge for submitting designs to reduce the number of non-recyclable cups that are thrown away every year by creating a more convenient alternative to the reusable coffee cup. <a href="http://www.thebetacup.com">www.thebetacup.com</a></td>
</tr>
<tr>
<td>Tesco Lotus (Thailand)</td>
<td>Product and Procurement</td>
<td>Tesco Lotus has opened the first of its ‘zero-carbon’ supermarkets in Thailand, as part of its commitment to be a zero carbon business by 2050. The new store features environmentally friendly technologies including a wind turbine, lower wattage LED lighting, photovoltaic cells, hydrocarbon powered fridges and rammed earth walls which are less carbon intensive to manufacture than concrete or steel. Tesco Lotus is now a major supermarket chain in Thailand, Cambodia and China. <a href="http://bit.ly/svKkXd">http://bit.ly/svKkXd</a></td>
</tr>
<tr>
<td>Walkers Crisps (UK)</td>
<td>Product and Procurement</td>
<td></td>
</tr>
<tr>
<td>---------------------</td>
<td>-------------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>The process of adopting a Carbon Label for their potato chips helped them identify areas of their supply chain where major energy and water efficiency improvements could be made (reducing energy per bag of crisps by 33% and water by over 45%)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>WalMart</th>
<th>Product and Procurement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>WalMart have launched the Sustainability Product Index, which will force its suppliers to disclose the sustainability performance of its products through a Sustainability Assessment and benchmarking.</td>
</tr>
</tbody>
</table>
Food SA

PO Box 124 Glenside SA 5065
Plant Research Centre, Waite Campus
2b Hartley Grove Urrbrae SA 5064

Telephone: +61 8 8303 9435
Email: contact@foodsas.com.au
Web: www.foodsa.com.au

Zero Waste SA

GPO Box 1047
Adelaide SA 5001

Telephone: +61 8 8204 2051
Email: zerowaste@zerowaste.sa.gov.au
Web: www.zerowaste.sa.gov.au