NSW GOVERNMENT

Clean energy strategy guide for businesses

Department of Planning and Environment

2018

The 'Clean energy strategy guide for businesses' has been prepared by the NSW Government as part of the Clean Energy Strategies for Business program. As part of the program, twenty New South Wales businesses were supported in developing a strategy and identifying opportunities to achieve 100 per cent renewable energy or emissions reduction.

September 2018

978-0-6483960-1-7

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A guide to developing a clean energy strategy for your business

More and more New South Wales businesses are taking action to develop a clean energy strategy. A clean energy strategy can help you understand your energy profile, identify where your energy costs come from, and develop a roadmap to improve competitiveness, reduce costs and build the reputation of your business.

This guide has been prepared using clean energy strategies developed for twenty New South Wales businesses as part of the NSW Government's 2017 Clean Energy Strategies for Business program, and is accompanied by a set of case studies available via energy.nsw.gov.au/clean-energy-strategies

This guide will step you through how you can prepare your own clean energy strategy:

"Participating in the clean energy strategy program was extremely valuable. It helped us to push the boundaries further than we would have done otherwise, and provided us with access to the right technical and commercial expertise."

Edward Maher | Manager CSU Green, Charles Sturt University

"At De Bortoli we actively pursue commercially available renewable energy technologies to achieve our emissions reduction target and to inspire innovation and technological advancement in the Riverina region. Developing this strategy helped us to explore new opportunities brought about through changes in technology and energy pricing."

Lindsay Gullifer | HSE Manager, De Bortoli Wines

"Participating in the clean energy strategy program helped us turn our clean energy ideas into a structured plan. As we grow our business, the strategy will ensure that we 'design in' the best opportunities."

William Brook | General Manager, Brookfarm

What is a clean energy strategy?

The NSW Government is actively encouraging businesses to develop clean energy strategies for achieving 100% renewable energy and emissions reduction.

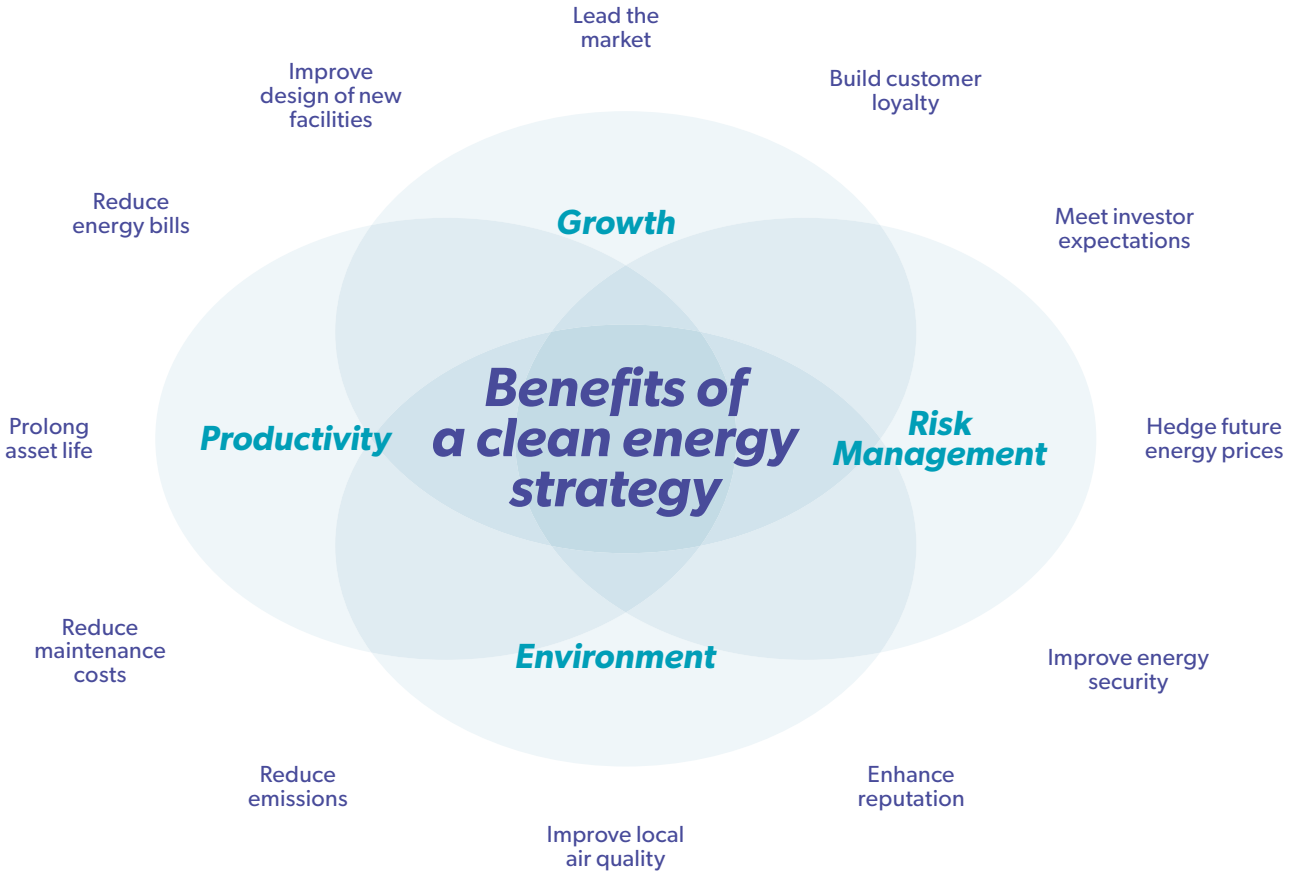
A strategy includes an individually crafted mix of measures for reaching a clean energy target. Measures might include energy reduction, energy efficiency, on-site solar or other renewable energy, off-site procurement of renewable energy or purchase of carbon emission offsets.

Why have a clean energy strategy for your business?

A clean energy strategy can help you understand your energy profile, identify where your energy costs come from, and develop a roadmap to improve competitiveness, reduce costs and build your business brand reputation.

Businesses that have already implemented their own clean energy strategy show that deploying energy efficiency technology and using both on-site and off-site renewable energy can deliver significant savings, have tangible brand benefits and reduce business risks such as energy price volatility.

Figure 1: Benefits of a clean energy strategy



The business case for a clean energy strategy: New South Wales examples

Stone & Wood, **Brookfarm** and **Sydney Zoo** emphasised the benefits of 'designing in' clean energy initiatives for the development of new facilities. **CHEP**, **Unilever** and **CSU** wanted to update their strategy to meet existing clean energy targets while minimising the impact of energy prices. **De Bortol Wines** and **Tradies** developed their strategy to demonstrate a culture of innovation and leadership.

Detailed case studies are at **energy.nsw.gov.au/clean-energy-strategies**

To develop a clean energy strategy for your business, it will be important to have a senior-level champion to engage management throughout the process and ensure access to resources to deliver and communicate the strategy. You will need to engage key internal decision-makers and experts such as sustainability managers, operations and maintenance experts and energy procurement officers.

To develop a clean energy strategy your first step will be to diagnose your business's current energy situation.

Photo courtesy De Bortoli Wines and Brett Naseby

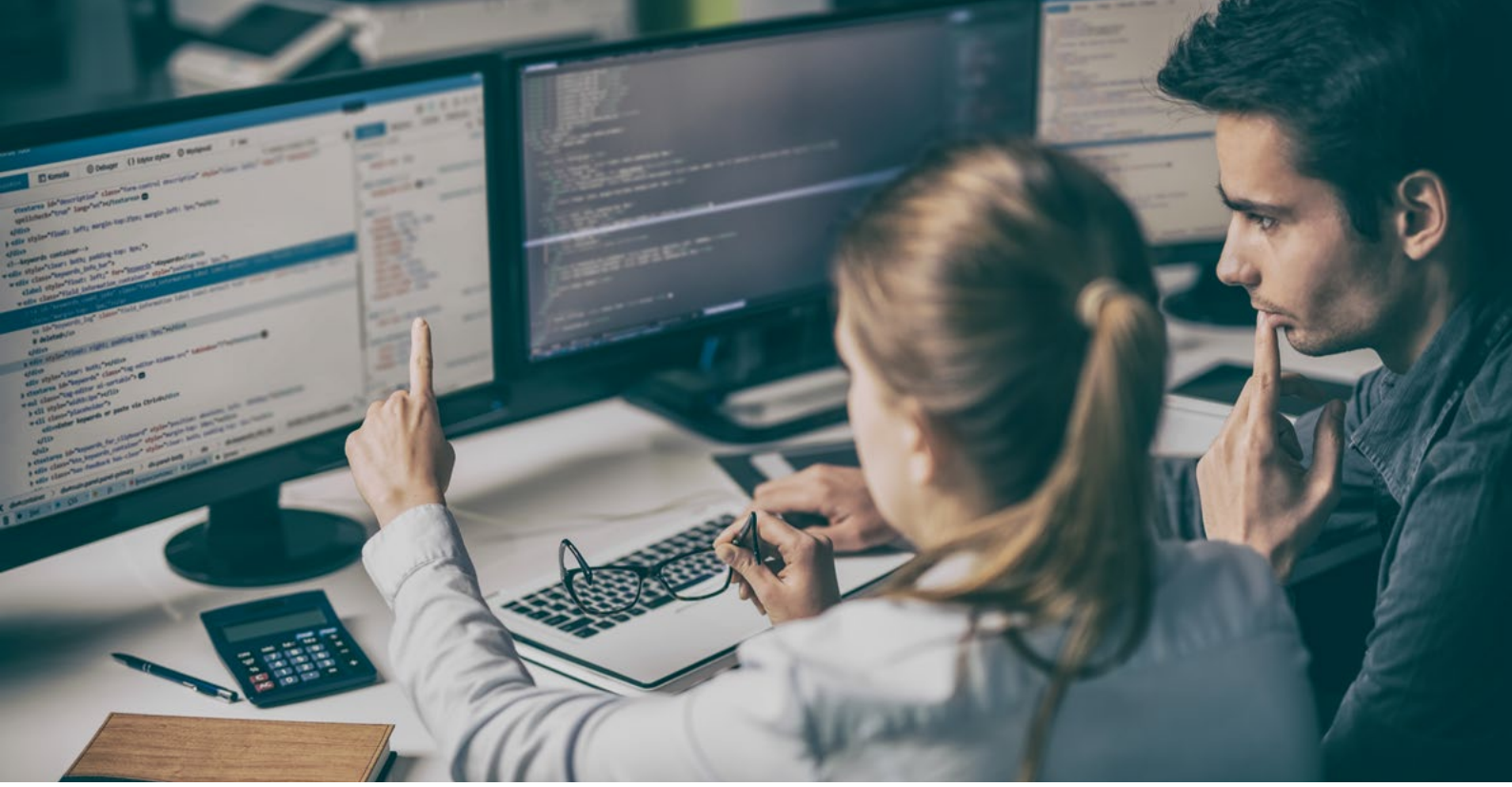
Diagnosing your business's current energy situation

A clean energy strategy will help you understand 'how to get there from here', but first you must understand where 'here' is. You can use the checklist below to diagnose your business's current energy situation.

Table 1: Checklist for analysing your business's current energy situation

Current energy sources	☑ Find out what type of energy you already use, where it comes from, and understand its emissions-intensity. ☑ Use this to get a sense for what options you can look into, for example fuel-switching.
Energy-related policies and targets	☑ Understand what, how and why policies and targets were set. ☑ Identify how well each policy and target are supported by management. ☑ Use this to determine if policies and targets should be reviewed in the strategy.
Procurement and contractual arrangements	☑ Find out when existing energy contracts will end. ☑ Identify the structure of supply charges. Are you charged peak and offpeak (time-of-use) tariffs? Do you have peak demand charges? Does your contract have any clauses for minimum consumption volumes ('take-or-pay')? ☑ Use this to identify opportunities and assess the cost effectiveness of alternatives.
Energy consumption patterns and data analysis	☑ Collect data on seasonal (annual) variations in energy use, and where possible daily changes in use—collectively known as your consumption profile. ☑ Identify the reasons for these variations (weather, product or service demands). ☑ Use these patterns to identify energy-related risks and challenges, including identifying periods of peak demand.
Existing and proposed initiatives	☑ Find existing and proposed clean energy initiatives that have been identified in previous energy audits or energy-related proposals. ☑ Use this to build on existing knowledge and tap into relevant expertise.

If you don't have this information available, you may find it helpful to engage an energy consultant to perform an energy audit. You can find a list of qualified energy auditors at environment.nsw.gov.au/business/energy-efficiency-expert.htm



Once you understand your current energy situation you also need to understand the broader context of your business. This is important so that your final clean energy strategy will be designed to support your business objectives. You will need to understand:

- your business's key operational and strategic goals and priorities
- your future plans like equipment upgrades or development of new facilities
- your financial position, such as your access to finance and any investment limits such as minimum hurdle rates or minimum payback periods for activities
- your market position and competitors
- the breakdown of your customer base and how they engage with your products or services
- whose support will be crucial for the success of a clean energy strategy.

Case study: Bega Valley Shire's diagnosis of its energy situation

Bega Valley Shire is a community of 34,000 people on the far south coast of NSW. The local council already had a climate change strategy for 2014-2017 with several targets, which was due for renewal in 2017.

To get a clear picture of their current situation the council engaged an expert consultant through the NSW Government's Clean Energy Strategies for Business Program. Together they conducted diagnostics, gathered data and collaborated with key staff to identify a clear picture of current energy use, cost and greenhouse gas emissions.

This process gave the Council the information it needed to make an informed decision.

Now that you understand your current energy situation your next step will be to decide where your business wants to go, by setting a clean energy target.

Setting a clean energy target for your business

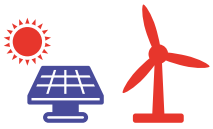
Now that you understand your business's current situation you can set a clean energy target to guide your strategy. A clean energy target will drive action, support decision-making toward clean energy initiatives and help show your business's commitment to clean energy.

There are three clean energy-related targets that businesses generally consider: greenhouse gas emissions reduction, renewable energy and energy productivity.

Figure 2: Three types of clean energy targets for businesses

Greenhouse gas emission reduction target

- establishes a strong business commitment to minimising the impacts of climate change
- there are recognised standards you can use to set your target:
  - the Australian National Carbon Offset Standard (NCOS) provides guidance on best practice carbon accounting
  - the global Science Based Targets initiative gives a method for reporting your business's contribution to keeping the global temperature increase below two degrees Celsius



Renewable energy target

- places a direct focus on increasing the proportion of renewable electricity generated and purchased by your business
- focuses on the specific benefits of renewable energy—greater control over energy costs, visible action and increased competitiveness—as well as reducing emissions
- increasingly relevant globally, for example the global RE100 initiative through which more than 100 businesses have committed to sourcing 100% of their electricity from renewable sources

Energy productivity target

- emphasises optimisation of energy demand and can be a good way of linking your business's key outputs to your clean energy objectives
- different sectors can apply different energy productivity metrics, for example energy-intensity metrics such as a target per square metre for real estate firms
- energy efficiency is typically the least cost way of reducing emissions and can deliver a range of benefits such as energy cost savings and maintenance cost savings

Here are three hints for how to make sure that your clean energy target will succeed:

1. Management support is the single-most important determinant of success

Since targets will need to be endorsed by senior management, ensure that you engage management and staff throughout the target-setting process. Be sure to consult with relevant stakeholders in the business and get leadership buy-in on setting a target. One way to do this is to host a face-to-face workshop that includes key staff, leadership, stakeholders and industry experts.

2. Your clean energy target should align with your business's strategic direction

Management support will be more likely if your target is aligned with and provides support for your business's operational goals and objectives. This means that your target should be set to account for things like upcoming changes in operations, expansion of service lines, acquisition or divestment of assets, changes in geographic distribution of customers, actions of competitors and cost projections for key expenses (which may include energy).

3. Your target should be specific, measurable and achievable

Make your target specific, measurable and achievable. Be clear about how you will measure success. One example of a clear target is: "We will achieve 50% reduction in Scope 2 emissions by 2030 based on 2005 emissions". You may wish to set interim targets which will help you track how you are performing as you progress towards your final target. You will also need to be clear about what is in and out of scope for your target. For example, are you trying to reduce emissions at all of your sites, or are you trying to achieve emissions reduction throughout your entire supply chain?

Once you have a target in mind, you are ready to look at what clean energy initiatives will get you there. Remember to be ambitious. High targets drive innovation, build competitive advantage and distinguish you from your peers.

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Case Study: Stone & Wood has set an energy intensity target

There are many kinds of targets, and your business may set several targets as part of your clean energy strategy. The regional craft brewer, Stone & Wood Brewing Co, established in Byron Bay in 2008, have done just that.

One of Stone & Wood's targets is an 'energy intensity' target, which is a form of energy productivity target. This target aims to reduce the energy consumed per kilolitre of beer brewed. They also have a target to be carbon neutral, and for a proportion of electricity to be sourced from renewable energy.

Actions to help you reach your clean energy target

Now that you have set a clean energy target you are ready to look at the actions that will get you to your target. Think big! You may be surprised which options stack up in your later analysis.

Table 2: Examples of energy actions you could take

 **Energy efficiency and demand management**	• Upgrade your lighting to more energy efficient lighting, such as LEDs. • If you have commercial or industrial refrigeration, upgrade it to a more efficient model or add a control system to reduce energy use. • If you use compressed air and your compressors run even when you are not using air, inspect and fix any system leaks to reduce energy use. • If you have complex equipment or multiple energy-hungry processes implement an energy monitoring and management system and get an expert to tune it.
 **Fuel switching**	• If you have LPG forklifts, replacing them with electrified forklifts can reduce your greenhouse gas emissions. • Converting your light vehicle fleet to electric vehicles, reducing vehicle size and improving vehicle utilisation can reduce your greenhouse gas emissions.
 **On-site renewable energy**	• Install rooftop solar PV, particularly if you have high daytime electricity use. • If you already have solar PV, consider installing a battery storage system if you are exporting a lot of your solar PV electricity to the grid. • If you need heat for your processes (or even just hot water), install a solar thermal system to meet some or all of this need. • If you have an organic waste product (food or animal product), it may be suitable to generate biogas (methane from biological processes), which can be burned like natural gas.
 **Off-site renewable energy**	• Purchase GreenPower through your electricity retailer. • Co-invest with a renewable energy developer in offsite renewable energy, such as utility-scale solar PV, wind farms or hydropower. • If you are a large business using a lot of electricity, you can reduce your electricity cost by entering a corporate power purchasing agreement with a renewable energy proponent.
 **Carbon offsets (greenhouse gas emission offsets)**	• Use the National Carbon Offset Scheme to understand carbon offset best-practice, then purchase carbon offsets, such as re-forestation of farmland in NSW or wind generation in rural India.

There are a range of ways for you to assess which actions you will take to achieve your clean energy target. For example:

- Calculate the **project's cashflow**, to assess the action's financial merit against your business's financial constraints.
- Conduct a **risk assessment** of each action, including the 'business as usual' option. A sensitivity analysis can help you manage uncertainty (such as future energy prices).
- Assess the **action complexity and duration** of each other action. Longer, complex projects are more likely to exceed initial timelines and budgets without careful controls.
- Identify and **engage stakeholders** to help you assess how to implement an action in a way that is supported by them.
- Assess the **maturity of the technology**, considering the commercial availability, technical support and evidence of successful case studies.
- Assess the **wider, intangible benefits**, such as impact on brand, meeting stakeholder expectations, or improving air quality.
- Consider the **impact on production and operations** of your business to implement the action. Different options may restrict, or otherwise enable increased utilisation of equipment or efficiency of operations.
- Be sure to use any **previous analysis or information**—such as detailed energy audits or quotes from renewable energy suppliers—to inform your decision-making process.

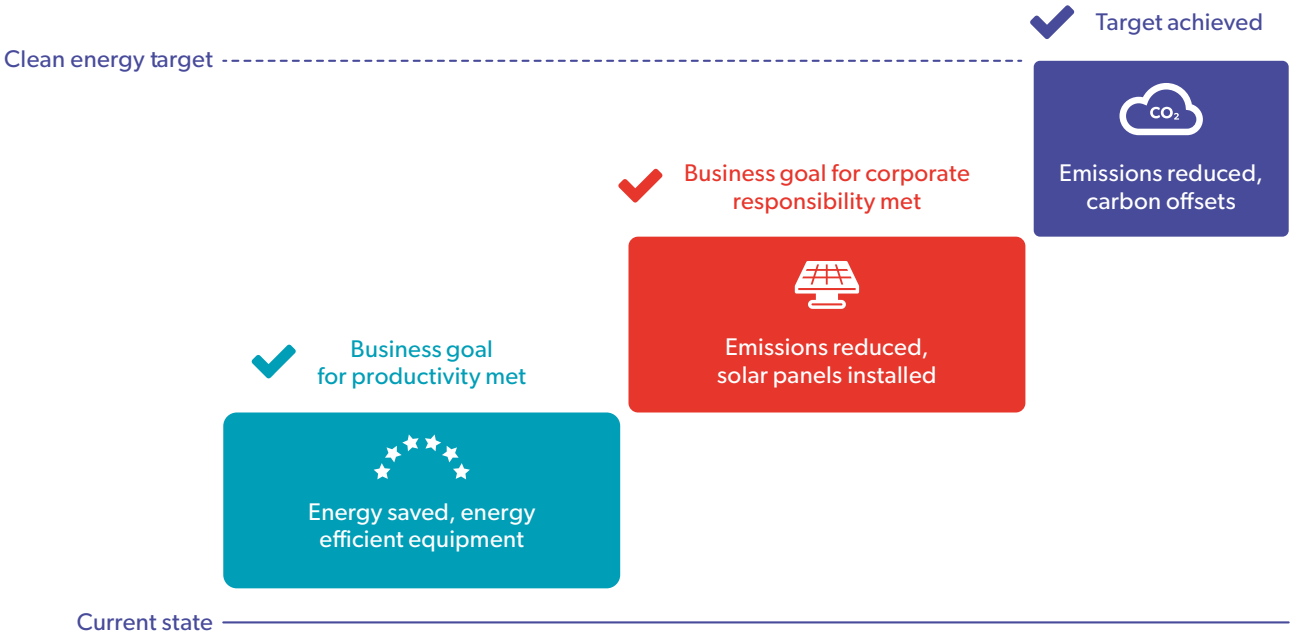
As you select actions, estimate their contribution to reaching your target. By developing graphics, such as a waterfall chart, you can not only visualise the contribution of each measure but you can use these graphics in your final clean energy strategy document to explain the approach to others.

Bringing it all together: A clean energy strategy

Once you have a clean energy target and a suite of actions to achieve that target over time you need to bring it all together into a clean energy strategy. Present this written strategy and business cases for key early measures to senior management to get the support it needs to go ahead. You may wish to include:

- a summary with key points, graphs and diagrams
- how the clean energy strategy aligns with your business priorities
- what you learned from your assessment of your current situation
- the results of your target-setting activities
- a summary of all the actions you investigated as potential contributors to the target
- the set of actions that will help you reach the target over time, including how they contribute to the target, when they will occur, how they link to business priorities, requirements for implementation such as resources and timing, performance under a reasonable set of scenarios, and operational and financial considerations.

Figure 3: Example chart showing actions taken to meet clean energy target and business goals over time



Finally, remember that circumstances change. A successful clean energy strategy needs to change with your business, so updating your strategy is just as important as having one. Continuous improvement and course-corrections are crucial on your journey to securing a clean energy future for your business.

For more clean energy information:

- Access detailed clean energy strategy for businesses case studies via energy.nsw.gov.au/clean-energy-strategies
- Access industry leading training and technical support on topics such as advanced energy management and battery storage via environment.nsw.gov.au/business/energy-efficiency-training.htm
- Access clean energy resources via cleanenergycouncil.org.au
- To access expert help developing and implementing sustainability projects consider Sustainability Advantage membership via environment.nsw.gov.au/sustainabilityadvantage
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