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Beyond efficiency and renewables

It is tempting to think improved energy efficiency and the occasional solar panel will take care of our environmental targets, but it's not that simple. In fact, that kind of complacency can lead to more consumption. In this chapter I show the 'green ceiling' of efficiency and renewables, and identify a third, crucial piece in the sustainability puzzle.

These are the key points at a glance:

- Efficiency and renewables are not silver bullet solutions. They are essential to green hospitality, but they have their own costs and complexities that deserve our informed attention. Hospitality businesses must go further to meet their environmental targets.
- Rebounds and backfires often undo our savings gains. The complacency of 'job done' attitudes can dismantle all the gains of green initiatives. Savings don't mean as much when people take them as license to waste.
- Carbon offsetting programmes do not absolve us of the responsibility to reduce emissions. Planting trees may feel good (and it is good!) but reducing carbon emissions demands a little more elbow grease than that. Carbon offsetting programmes should be but one piece in a broader green strategy.
- Any plan worth its salt must be shaped around a site's unique context. Beware the one-size-fits-all quick fixes. Every site is different and requires personalised sustainable solutions. Putting in the research reaps rich rewards.
- Resource conserving is the crucial third piece in the puzzle. Behaviour should not just be included in sustainability strategies – it should be central. Staff and guests alike can transform green tourism; we just need to trust them.
- This chapter will get you thinking differently about the foundations of sustainable hospitality, shining light on nuances we all need to understand and embrace. Only with that mindset can we hope to revolutionise the sector.

Question

Are we limiting our options to save? Many of us have turned to eco-efficient technologies or renewable energy to become greener. Both are worthy, but they are not enough. Their results are not going to deliver the savings we need in time. I will explain in this chapter a third way forward that complements the others and helps us achieve sustainable hospitality.

In this chapter I compare the benefits of efficiency and renewable energy/water, drawing your attention to the elephant in the room - our consumption and waste. Hospitality's escalating consumption and waste never goes away despite the benefits of new equipment, photovoltaics, heat pumps, and other green technologies. This consumption is compounded through business expansion and population growth. But it is also strongly affected by our need to maintain healthy environments in extreme weather conditions when we consume even more resources to cope. We must do more than simply rely on efficiency and renewables.

I have avoided doomsday data and have not gone into details on climate and carbon emissions because, first, there are many excellent sources of information (See, for example, the reports published by the Intergovernmental Panel on Climate Change at www.ipcc.ch). Second, my purpose is not to lament, but to help us take strategic action that draws on our strengths as managers of large, medium, and small hospitality businesses, to make us more commercially successful and truly environmentally responsible.

What is energy and water efficiency?

There are several types of savings: efficiency, renewable resources (energy and water), and conserving. We should use these terms precisely to understand their scope and to maximise our benefits.

Efficiency is a popular method. It means using equipment that provides you with the same or improved performance while using fewer resources. For example, a five-minute shower using 15 litres of hot water a minute amounts to 75 litres. Using a new water saving shower head, you still enjoy the five-minute shower but now use only 45 litres of water. The equipment is 40% more efficient and you haven't had to change your behaviour. This is how the costs work out at current rates in Sydney. The cost of the shower head is \$47, over 12 months the cost of the water saved (10,950 litres assuming one shower per day) is \$23 (Sydney Water rates), and energy saved (kWh 385.5) to heat the hot water is \$96.34, so you have a ROI of six months (Elements of Heating, n.d.). What do you think might be a weakness with this scenario?

Arguments for efficiency tend to revolve around saving money, which is why it is a popular method with sales of energy-efficient appliances projected to almost triple (Alsop, 2020). It can cover energy analytics, company energy auditing, advances in processing, waste heat recovery, smart plug, and LED lighting. My shower example saves both water and energy to reduce carbon. Many energy processes have a nexus effect where they involve other factors, so there can be multiple benefits.

Types of renewable energy

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Renewables are a second option that can cut carbon emissions, cut costs, avoid using fossil fuels, and make you more self-sufficient.

You can collect energy from the planet's four elements: earth, wind, fire, and water. From the earth, bioenergy using harvested trees (trees are processed into wood pellets to become bioenergy fuel, which is a fast-growing global market); from the atmospheric processes causing wind; using the sun's fiery radiation for heating and lighting; and hydroelectric power from water turbines (other forms of renewable energy include tidal and geothermal).

The benefits of renewable energy are that it is not depleted by continuous use, does not produce significant pollution, and generally does not cause health hazards. As with efficiency, the strong business case for renewables has led to wide acceptance by both businesses and the public. However, there are impacts, such as bioenergy, where the production of wood pellets and their burning emit pollutants (Quinterio et al., 2019).

The recognised solar industry way to calculate the ROI is to divide your annual electricity costs into the price of the solar equipment. Solar equipment costing \$30,000 / \$10,000 annual electricity bills = ROI three years. What do you think might be a weakness with this scenario?

Cleaner technologies are often included within renewables as they reduce or eliminate waste, seek to utilise renewable resources, and reduce carbon emissions. Biogas is considered a cleaner technology because processes collect the gases from the breakdown of organic matter, and methane is used as a fuel to heat water. Research has also proposed that it is feasible to convert organic waste from guests into biogas cooking fuel at individual hotels and restaurants using a bio digester (Dhital, 2018). Cleantech solutions are a popular option, as demonstrated by their escalating share price, e.g. Tesla up +1070% (Pernick, n.d.), and are now being retrofitted into tourist accommodation (Deveau, 2019).