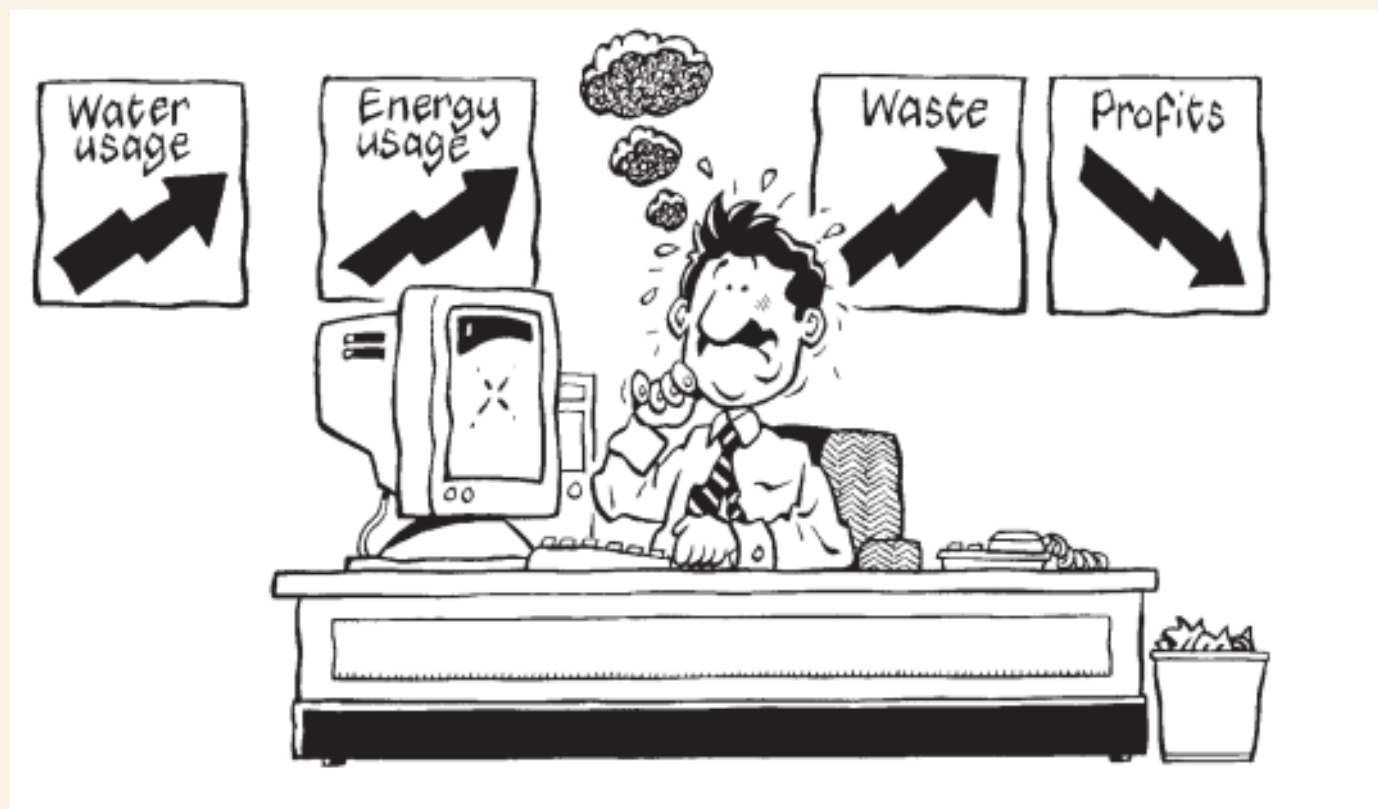


Introduction to ecoBiz

Nicole Price
ecoBiz Sustainability Coach

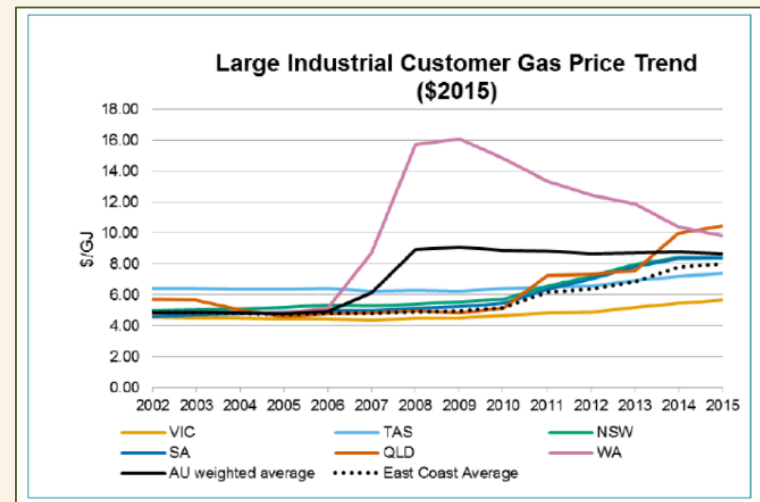




Rising energy costs!



Energy Matters analysis (based on
ABS 6401.0 Consumer Price
Index), 2016



Large industrial gas price, Department of Industry,
Innovation and Science, 2015

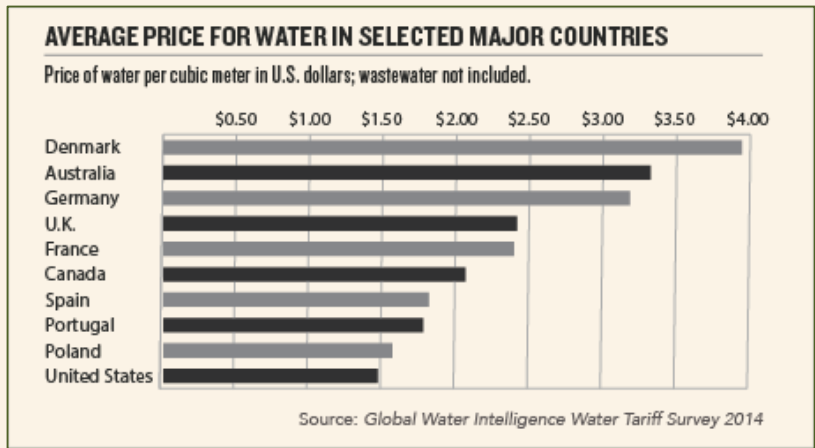
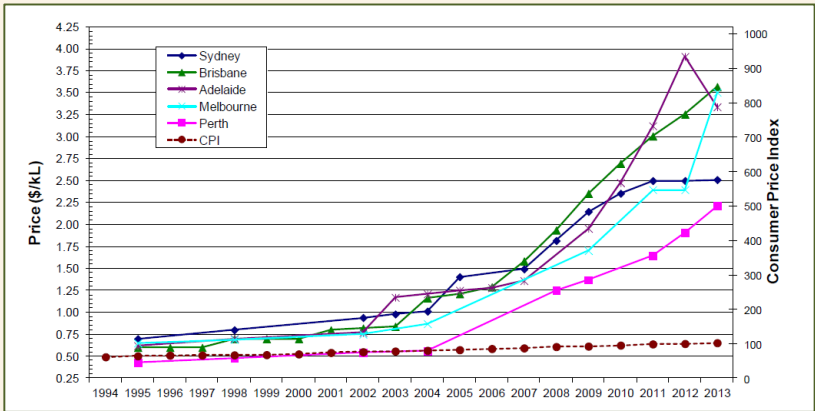


CCIQ

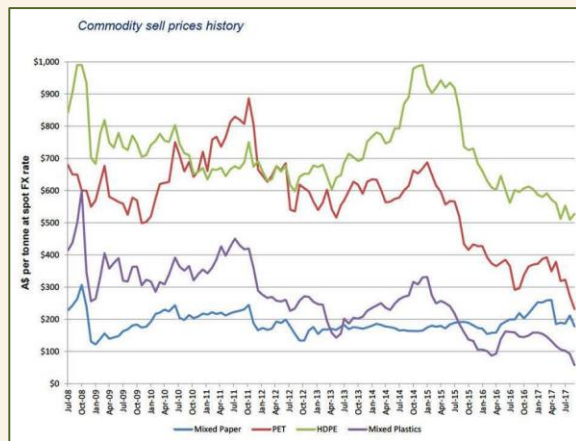
ecoBiz
Queensland



Rising water and wastewater costs!



Rising waste disposal costs!



Commodity Sell Prices, Visy, 2017



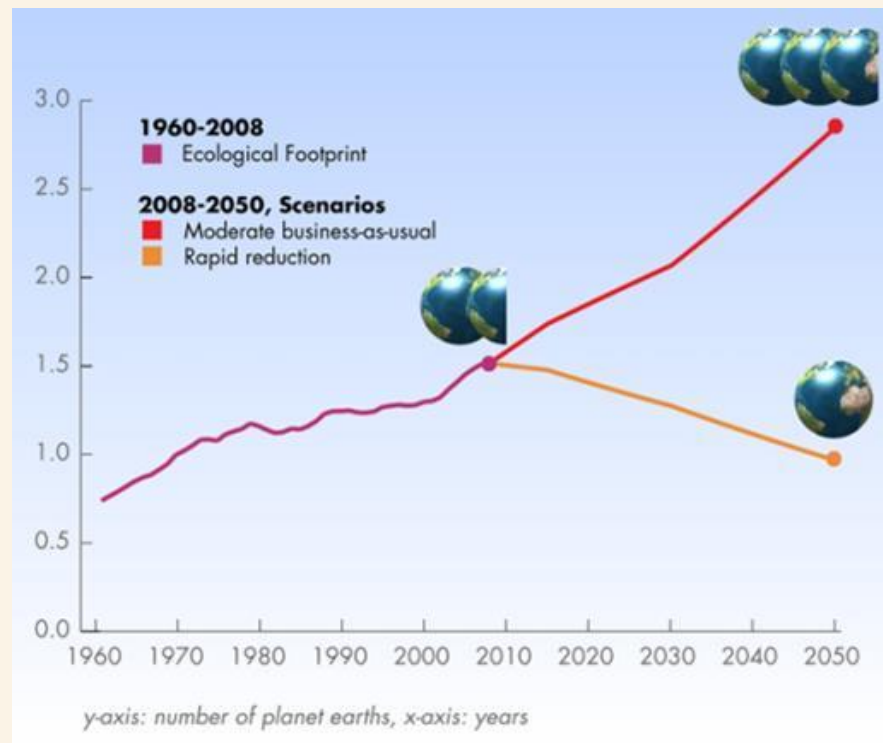
Bloomberg, ACOR, 2016



Container Refund Single Use Plastic Scheme Bag Ban



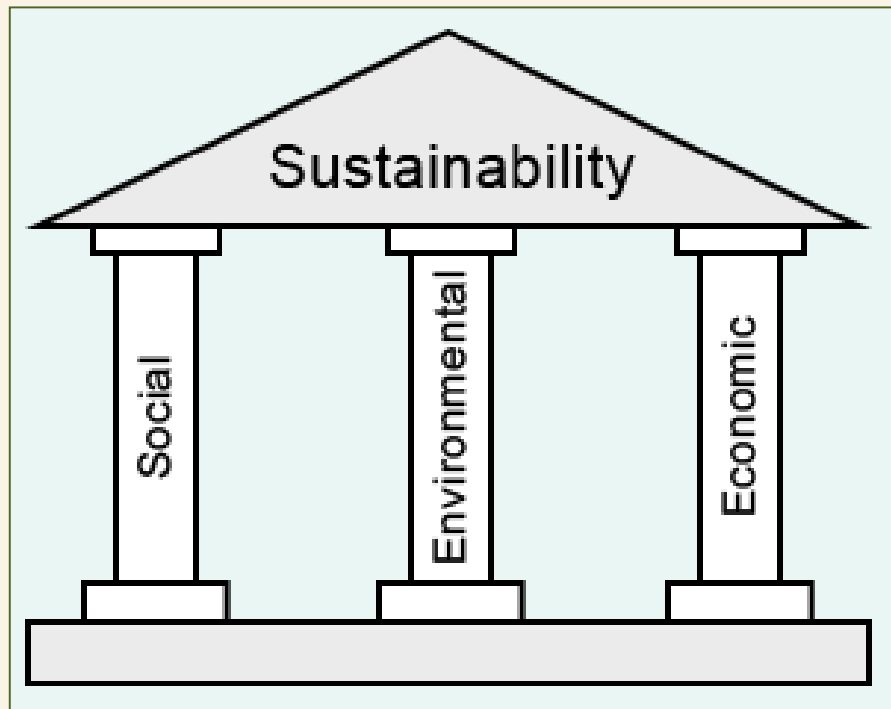
If current levels of resource consumption continue.....





CCIQ

ecoBiz
Queensland



"...meet the needs of the present without compromising the ability of future generations to meet their own needs"

(Brundtland Commission, 1987).



What can we do?

ecoBiz

A free government funded program to assist businesses reduce their energy, water and waste costs whilst also reducing their impact on the environment .

WIN-WIN

It's about doing more with less
monitoring.....awareness.....action.....continuous improvement

A bit about us...

ecoBiz is delivered by:

- Chamber of Commerce & Industry Queensland (CCIQ)
- ecoBiz sustainability coaches based in SEQ, Central Qld (Townsville/Rockhampton), Western Downs
- Over 100 partners (achieving 10% or more savings)
- Over 700 business visits

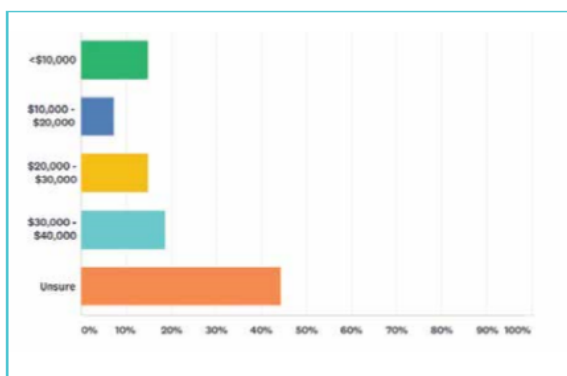


What's included

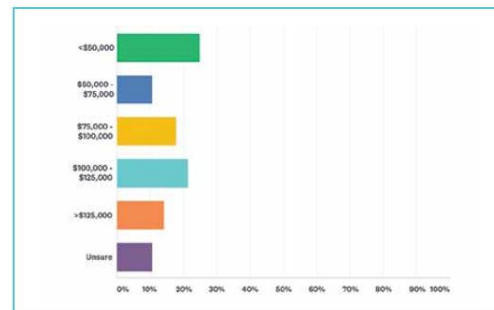
One-on-one business visit: Benchmarking of water, energy and waste

Findings of the ALFA 2017
Benchmarking Aquatic Facility Study

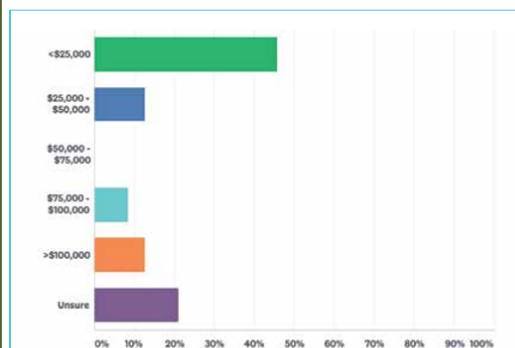
How much does the centre spend on water per year?



How much would the centre spend per year on electricity?



How much would the centre spend per year on gas?

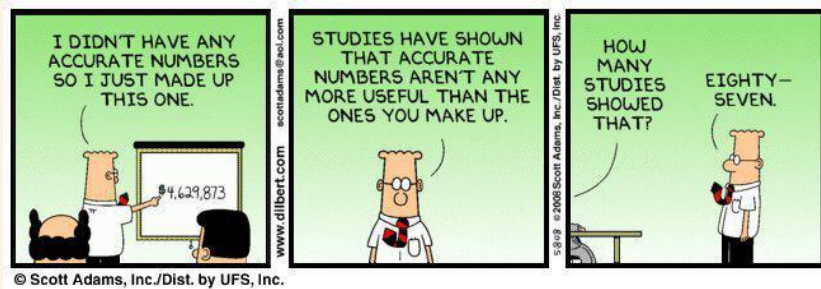




Why benchmark?

Benefits

- Understanding your resource use per patron, bather
- Comparing against same time last year
- Comparing against another facility
- Compare against industry averages or best practice



Water KPI's

Aquatic centre KPIs using bather numbers

Rating	KPI
Best practice	<20 L/bather
Good	20-40 L/bather
Fair	40-60 L/bather
Poor	>60 L/bather

Mixed-use centres where bather numbers are not recorded separately have a lower KPI to reflect the lower water use of non-swimming patrons. KPIs for mixed-use centres are in Table 2.

Aquatic centre KPIs using patron numbers

Rating	KPI
Best practice	<10 L/patron
Good	10-25 L/patron
Fair	25-40 L/patron
Poor	>40 L/patron

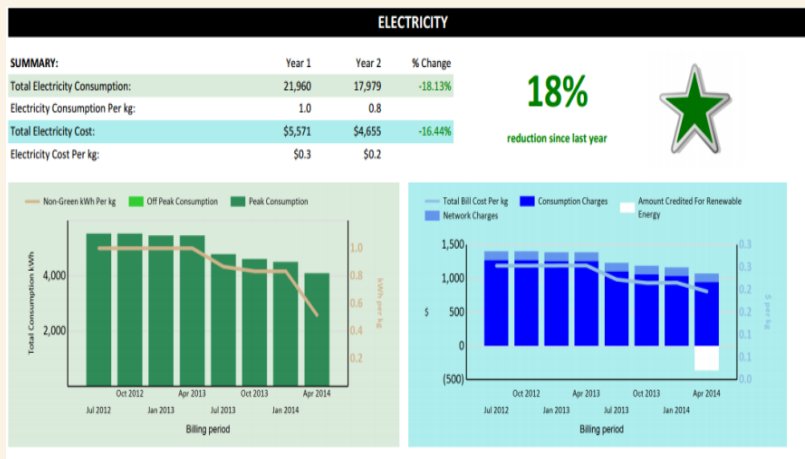
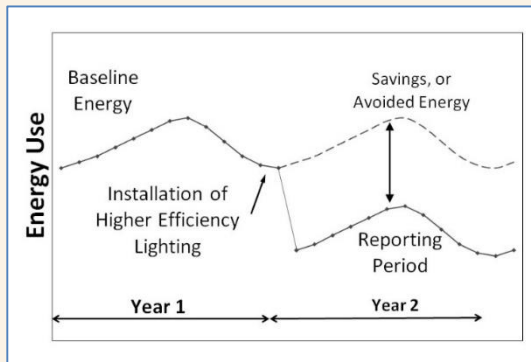
Energy KPI's

- 20 MJ/patron
- 2 GJ/m² heated pool area/year.

Sydney Water, 2011, Best practice guidelines for water management in aquatic leisure centres



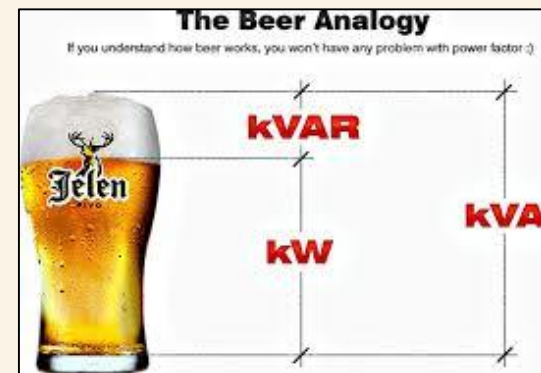
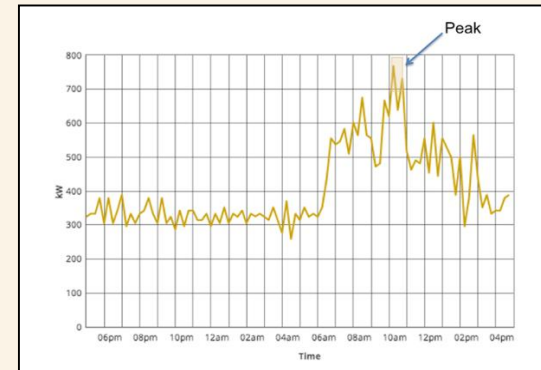
Quantifiable success - Save 10% and become a ecoBiz partner ?





One-on-one business visits: Review current water and energy consumption and waste generation

- **Tariffs** - suitable for pattern of energy use
- **Peak demand** - height of peak, time and day it is occurring each month, equipment, fixtures or activities that could be contributing to peak (focus areas)
- **Power Factor** - Consider installing power factor correction equipment where they have a power factor of less than 0.88.





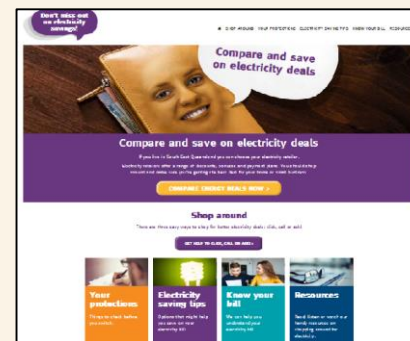
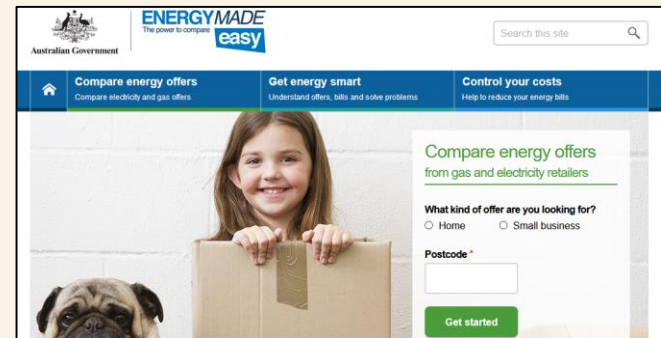
It's a buyers market

Change retailer?

See Australian Government tool for comparing energy offers from gas and electricity retailers tool for Small Business www.energymadeeasy.gov.au (will need a bill)

OR

Queensland Government Compare and Save page www.dews.qld.gov.au/electricity/energy-save



CCIQ

ecoBiz
Queensland



Tricky because you lease?

A screenshot of the t3 Initiative website. The header includes navigation links: HOME, t3 ABOUT, t3 BENEFITS, t3 PROJECTS, t3 SUPPORTERS, and CONTACT t3, along with the t3 logo. The main content area features the 't3 Initiative' logo over a background image of a modern office. Below the logo, there are two blue boxes. The left box, titled 'PROVIDES THE TENANT', lists: Reduced costs, Improved environment, and More productive workplace. The right box, titled 'PROVIDES THE OWNER', lists: Increased income, Uplift in asset value, and Improved tenant retention.

HOME t3 ABOUT t3 BENEFITS t3 PROJECTS t3 SUPPORTERS CONTACT t3

t3 Initiative

PROVIDES THE TENANT

- Reduced costs
- Improved environment
- More productive workplace

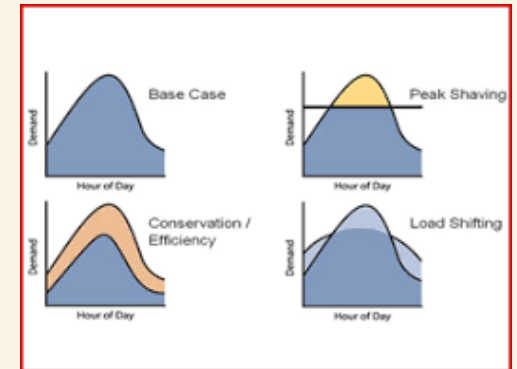
PROVIDES THE OWNER

- Increased income
- Uplift in asset value
- Improved tenant retention



Reducing peak demand costs – typically 50% of your electricity bill

- Avoid using of energy-hungry equipment at the same time. Reschedule to before or after when the spike is occurring e.g. the pumping of water
- Turn down, cycle or turn off unnecessary equipment e.g. HVAC systems, lighting
- Switch to alternative energy sources during periods of peak demand e.g. solar PV
- When purchasing new equipment consider not just the initial purchase price but also its efficiency.



Attempting to manage peak demand manually can be complex. Consider installing an energy management system.



Crunch Fitness, NSW

Installed Smart Energy Management System in four of its gyms

- Increased visibility into electricity consumption and allowed critical areas of improvement to be identified

Results

- Smart phone threshold alerts which red flagged any increases in consumption
- Unusual out-of-hours loads significantly reduced
- Air conditioning hours trimmed to match operational hours
- Faulty HVAC equipment identified

Savings
\$33,200



CCiQ

ecoBiz
Queensland



One-on-one business visits: Site walk through and report outlining possible opportunities

Herb Graham Recreation Centre, WA

30kW solar PV installed on the
roof in 2016

- Supply's around 18% of the centre's energy

Savings

- \$17,900 each year / Payback 2.6 years
- Reduced greenhouse gas emissions by 54.2 tonnes CO₂ per year

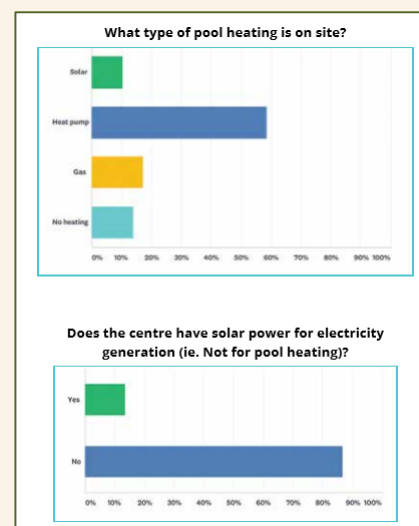
City of Sterling, 2016, Sustainable Energy
Projects - Aquatic and leisure centres

WhiteWater World, Dreamworld, QLD

Replaced gas burner system
with 19 heat pumps in 2017

- Increase performance
- Reduced annual pool heating costs by over 70%
- Reduced greenhouse gas emissions by over 35%

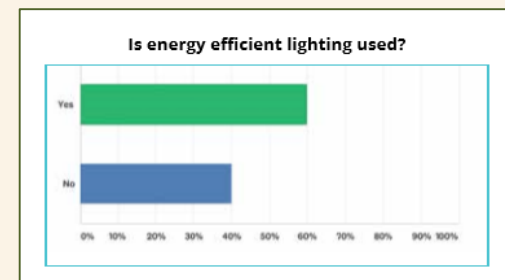
<https://www.evoet.com.au/projects/whitewater-world/>





Leisurepark Balga, WA

- Majority of lighting at the centre was upgraded to energy efficient LED lighting in 2016.
Saving of around \$19,600 each year
- Solar black matting was installed in 2012.
Reduction in gas use of about 12% compared with the year prior to installation.
- Variable speed drive (VSD) control systems installed on 13 pool circulation and heating pumps in 2015.
Reduced pump energy use by around 8%.
- The Building Management System (BMS) was upgraded in 2016



Variable speed drive (VSD) control systems installed on pool pumps at Leisurepark Balga.



Aspirational - Prince Alfred Park Pool, Surry Hills, NSW, 2012

- 2,000 square metre green roof planted out with almost 36,000 native meadowland plants.
- It insulates the building below (pool café, change rooms, storage and plant and equipment rooms) and reduces the need for air-conditioning
- The water is sourced from harvested and treated stormwater
- Provision for a tri-generation plant (purpose-built plant room)



CCiQ

ecoBiz
Queensland

Cadbury House Club in Congresbury, UK, 2013

42 energy Producing crosstrainers, bikes,
and treadmills

- Energy generated powers the machine
- Surplus energy is channelled into the gym's own power supply via "brushless motor" technology
- Cost: \$1 090 659

Savings

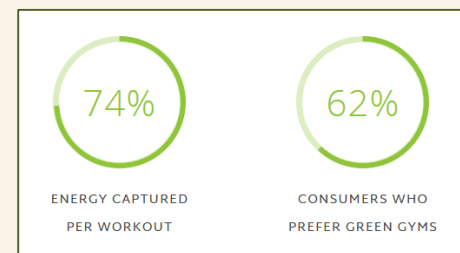
Reduced the gyms energy consumption
by 30%.

<http://www.dailymail.co.uk/news/article-2430771/Worlds-self-powering-gym-uses-energy-WORKOUT-lights-dont-break.html>



Watts generated are converted to
AC power and sent back to the grid

https://www.youtube.com/watch?v=p_H9ps1Hf1E





Doing it already

Noosa Aquatic Centre, Noosa, QLD

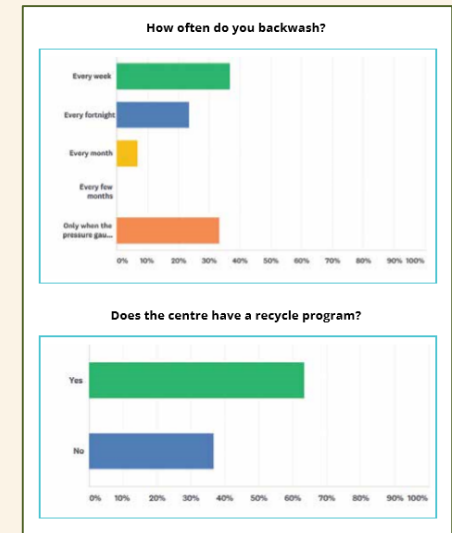
Benchmarking - Management receives annual reports from the Centre for Environmental & Recreation Management (University of South Australia) which includes benchmark figures

Energy

- Variable speed drives installed on the heat pumps
- Staged start up of pumps to reduce peak demand charges
- 1000 L capacity solar water heating unit installed on 'Learn to Swim' pool Sensor lighting is installed in the amenities/change room areas
- Installation of thermal pool blankets
- Power factor correction equipment

Water & wastewater

- 3 rain water tanks used for toilet flushing
- Pool water that is purged from the system is recycled using an earth filter, UV rods and a carbon filter and put back into the system. Gone from 10 ML per backwash to 1-2 ML



CCiQ

ecoBiz
Queensland

Ways to fund your energy projects

- Solar/battery

www.qld.gov.au/community/cost-of-living-support/solar-battery-rebate

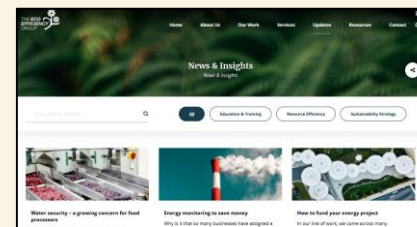
- Peak smart appliances/tariffs –
<https://www.energex.com.au/home/control-your-energy/positive-payback-program/positive-payback-for-business>



See The Ecoefficiency Group blog “How to fund your energy project”

www.ecoefficiencygroup.com.au/how-to-fund-your-energy-project

- Commercial loan
- Green business loan
- Chattel mortgage
- Capital lease (or asset or finance lease)
- Operating or rental lease
- Solar leasing
- On bill financing
- Energy Services Agreements
- Power Purchase Agreement (Solar)



What's included

Online Support: Opportunities checklists

Opportunities Checklists			
Water Checklist	Energy Checklist	Waste/Material Use Checklist	Staff Awareness Checklist
Water Management	Energy Management	Packaging	Gaining commitment and support
Cleaning	Lighting	Purchasing and Inventory control	Staff involvement
Process and Utilities	Refrigeration	Food waste	Measuring to manage
Wastewater	Electric motor	Process design	Identifying opportunities
Chemicals	Heating, cooling & ventilation	Operation	Action plan and implementation
Bathrooms	Pumps and Fans	Reducing solid waste	Continuous improvement
Kitchens	Compressed Air Systems	Re-using waste	
Laundries	Boilers and water heating	Recycling waste	
Landscaping	Office equipment	Waste collection	
Pools	Cooking		
Agriculture	Building and renovating		
	Transport		

<http://cciqecobiz.com.au/do-it-yourself/>



What's included

Online support: Webinars



Coming up:

Tuesday 27 March 2018, 12:00 pm: ecoBiz partners Guymer Bailey talk about how they are making their own work space more sustainable.

May, 2018 : Understanding tariffs

<http://cciqecobiz.com.au/do-it-yourself/>

What's included

Online support: Case studies of ecoBiz participants

Nambour Rugby Club, Nambour, Qld

Organically certified playing field – an Aussie first

- LED field lighting (performance increase of 87%)
 - Low-energy clubhouse lighting
 - Recycling programs • Rainwater storage
 - Premiers Sustainability Award Winner 2015
- ### **Savings**
- Zero chemical and artificial fertiliser use.
 - \$6000 (20% decrease in field maintenance costs)



<http://ccigecobiz.com.au/do-it-yourself/>

CCIQ





What's included

Online support: Training

NEW: Series of training events aimed at getting your organisation's energy efficiency journey started.

For a limited time, the Queensland Government is offering significant fee subsidies to course participants so registering for one of these programs today.

Initiative of: The Energy Efficiency Council, Queensland Government, the Chamber of Commerce and Industry's ecoBiz program and the NSW Office of Environment & Heritage

<http://cciqecobiz.com.au/whats-in-it-for-me/events-and-webinars/>



What's included

Online support: Leaders Forums



<http://cciqecobiz.com.au/whats-in-it-for-me/events-and-webinars/>

Benefits

- **Reduced** energy, water and waste costs and raw material savings
- **Reduced** compliance costs / Lower insurance
- **Motivate** staff through sustainability
- Be **recognised** as a 1, 2 or 3 star ecoBiz Partner or Champion
- **Demonstrable** sign of continuous improvement in Sustainability
- **Better image** with customers, regulators



We have a team to support you!

A decorative header banner with a yellow background. It features various icons: a lightning bolt, a recycling symbol, a magnifying glass, a gear, and a person. The word 'REDU' is visible on the left, and 'USE' is visible on the right.

Contact

Add your name to the 'Contact me'
sheet here today if you are
interested

ecoBiz team

www.cciqecobiz.com.au

ecobiz@cciq.com.au

1300 731 988

