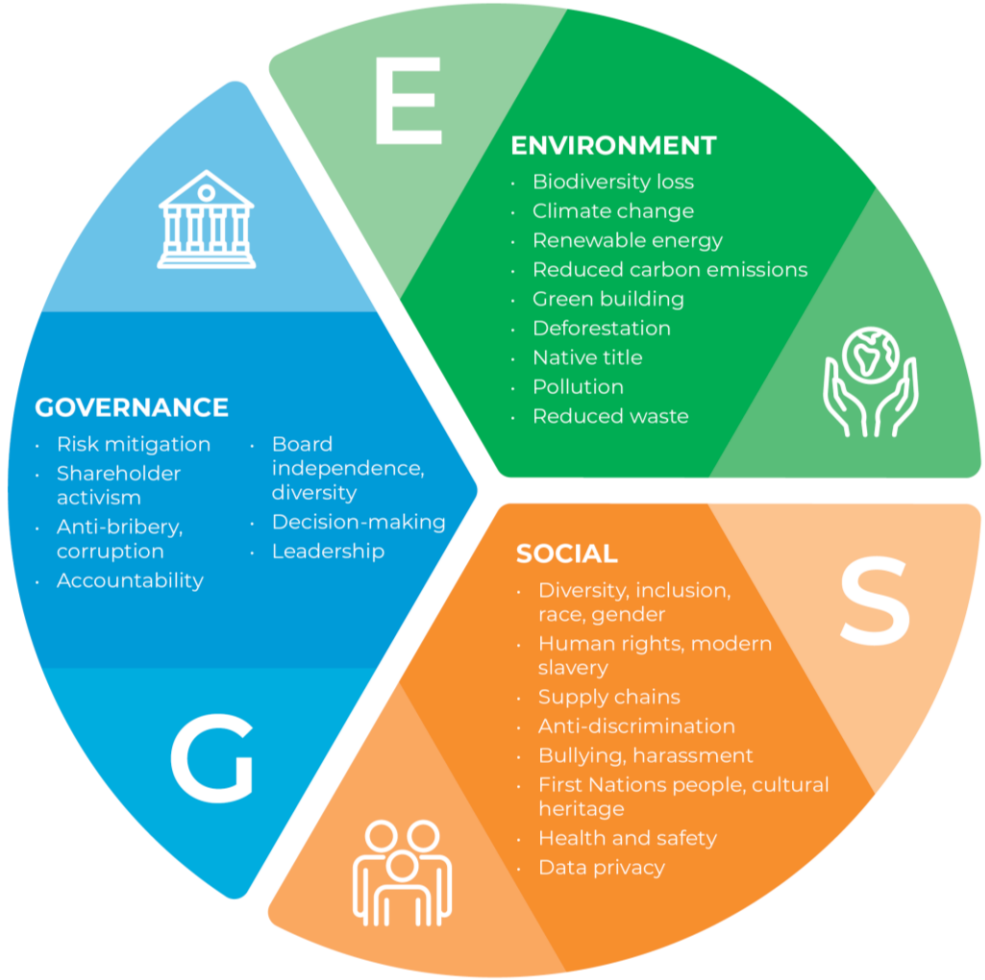


# A Plan to Net Zero – Intelligent Energy - Electrify



COMMERCIAL & INDUSTRIAL



# Environment – Social - Governance

**ESG has become a benchmark in creating best practice performance standards in how business and industry move to improving how businesses operate across the board.**

**Net Zero Carbon & Energy focuses on climate change mitigation, renewable energy, green buildings, reduction in pollution and improved working and living conditions through improvements in indoor air quality and thermal comfort.**

**We offer a multi technology approach that accesses government rebates that can have a significant impact of capital costs & reduce operational costs.**

# Green Building Megatrends



The Green Building Council guideline for Green Star ratings offers new builders and home owners an opportunity to develop buildings that can have a significant impact on the sustainability and ongoing energy costs of running the buildings and have a minimal impact on the environment .

Net Zero Carbon & Energy aligns with the Green Building Council guidelines as well as NaTHERS & Nabers rating systems.

# Electrify - Sustainability



**Net Zero Carbon & Energy believes the quickest way to achieve Net Zero starts in buildings is by electrifying as quickly as possible.**

**This document offers a brief insight into some of the best technologies and services available in Australia that will achieve this target.**

**This includes improving the ongoing resilience of these buildings.**

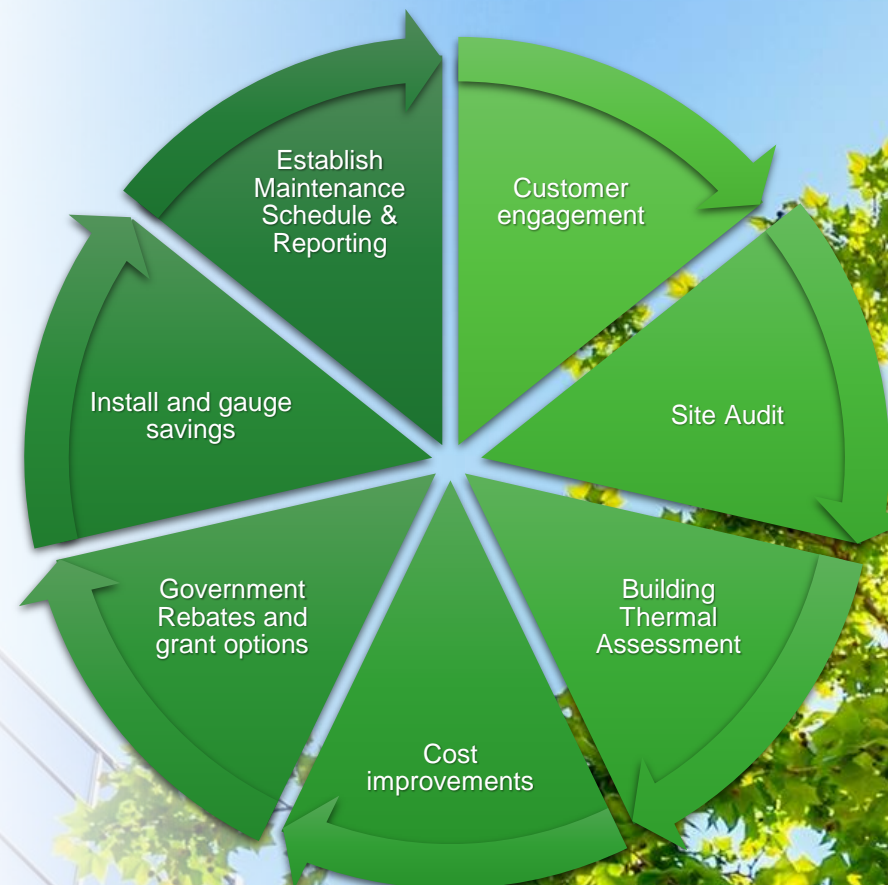




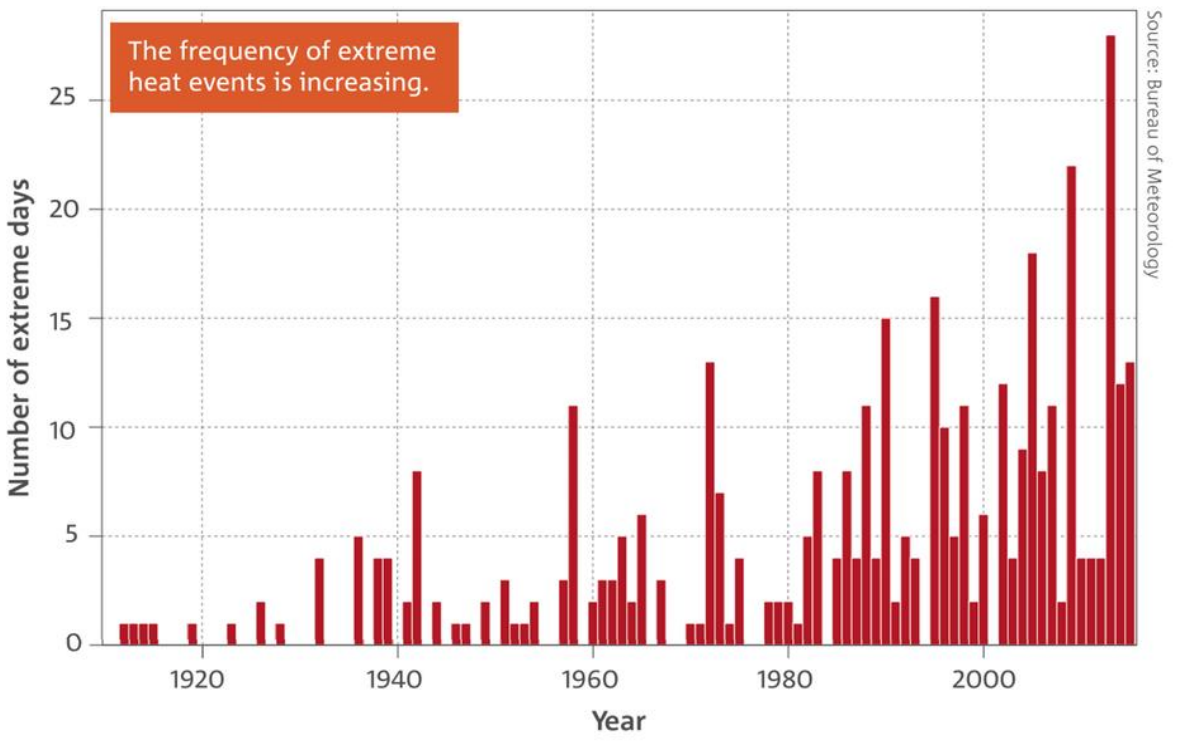
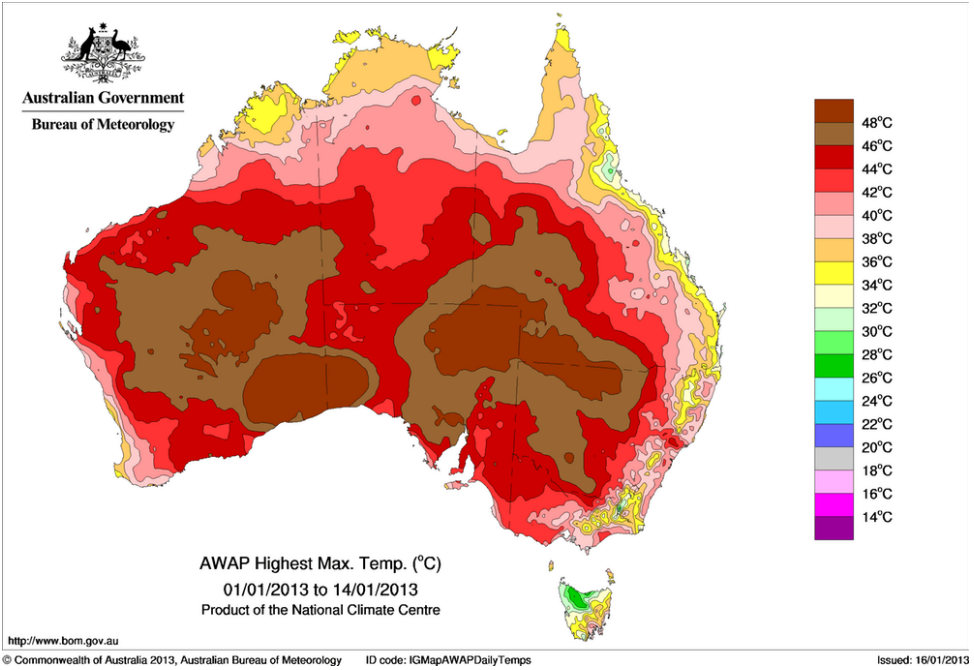
## Our end-to-end process solution includes:

- **Asset & Site Audit** – This gives us an overview of the condition of the site and its assets. Our audit process supplies our customers the ability to procure the capital equipment required whilst targeting government rebates.
- **Accessing Government rebates and grants / Assess monitoring on site.**
- **Present the results and recommendations.**
- **Customer Plan** – We work with the customer to create the best plan to a budget that gains this biggest savings.
- **Customer Presentation & Proposal** – Re-present your costed plan.
- **Install and gauge savings** – Pre installation monitoring allows us to review how each installation gains savings on the site.
- **Establish with incumbent mechanical and electrical services a regular maintenance process.**
- **We operate in both the CAPEX to OPEX space. Our offer is a full building & business approach.**

## Our focus is on savings and ROI.



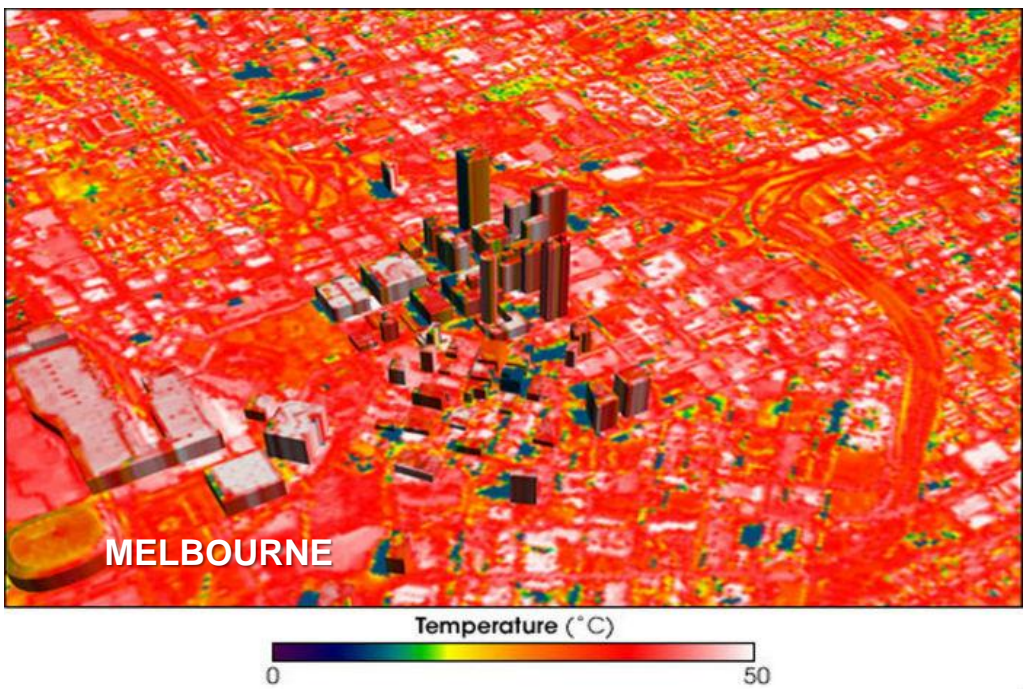
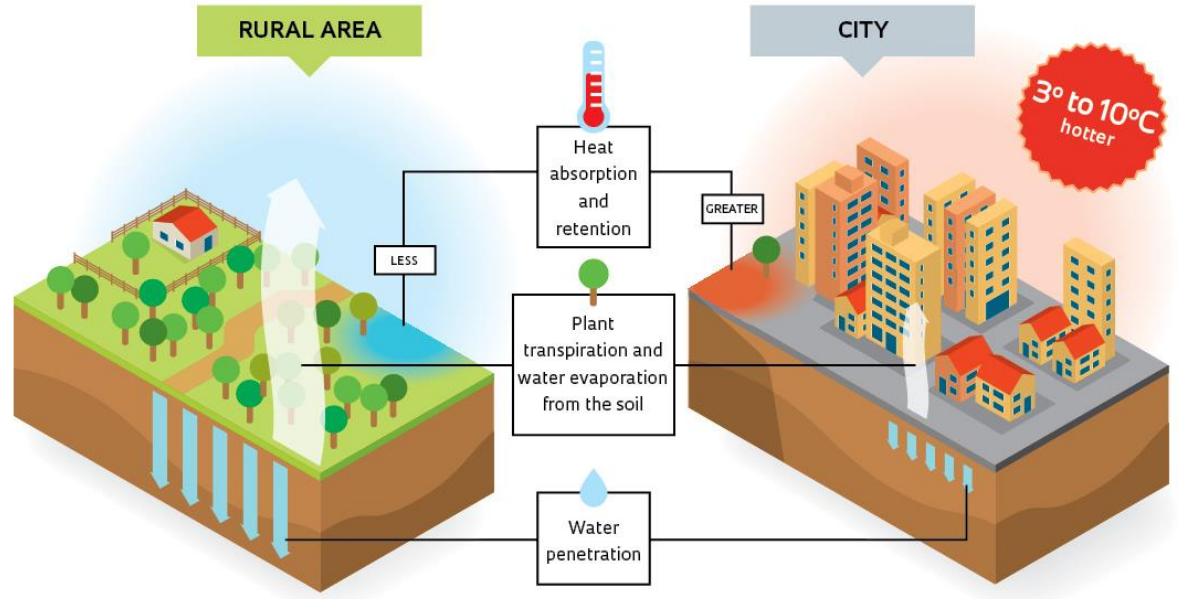
# Increasing Temperatures



Since the year 2000, there has been an increase in the amount of extreme weather events particularly with extreme heat days. These periods cause extensive problems to the way our existing buildings perform from an energy load level and personal comfort basic standard. Australia has always been a hot dry continent but this is now increasing.

With increases in temperature and escalation in extreme heat days, the opportunity is to introduce a product combined solution that specifically designed that controls the effects of these extremes by limiting its impact on energy costs.

# Urban Heat Island Effect



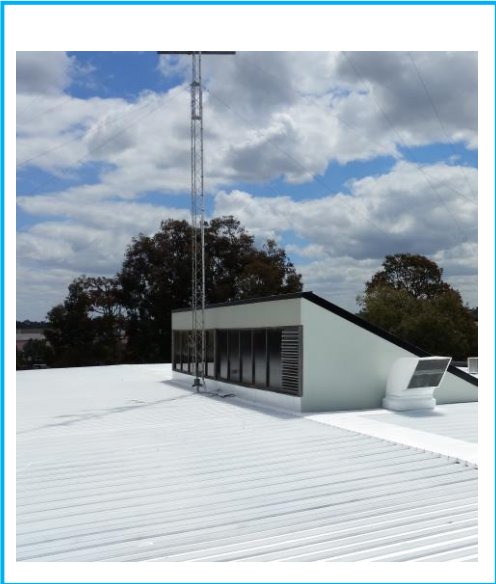
Extreme Heat days and excess heat in general compound Urban Heat Island effect in cities which can experience temperature increases of between **3 – 10%**.

*This has a direct effect on  
Building Energy Loads  
Thermal Comfort  
Occupant Health*

# Combating Heat - Technologies



## ROOF & WALL THERMAL PAINT



UP TO 47% SAVINGS  
THERMAL HEAT GAINS OR LOSSES THROUGH  
ROOFS & WALLS

## SOLAR POWERED AIR CONDITIONING



85%+ SAVINGS ON  
AIRCONDITIONING POWER &  
POWER OUTAGE RESISTANT

## AIR BALANCING



CREATES SAVINGS BY  
BALANCING ROOMS AIR  
CONDITIONING

## WINDOW INSULATION



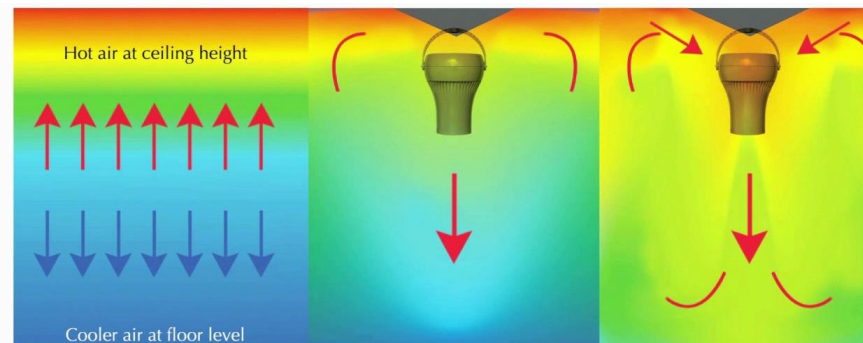
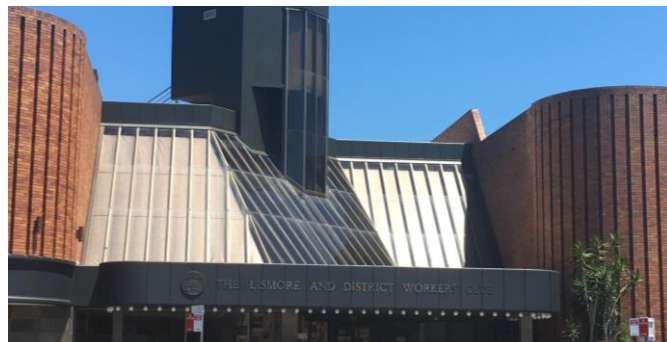
REDUCES HEAT GAINS BY 72% & STOPS  
AIR CONDITIONING LEAKAGE THROUGH  
GLASS

Each of these technologies combined in a single application creates a larger energy saving overall, which better balances both the energy and heat loads of a building. An overall savings of 50%+ or more can be achieved by the use of multiple technologies. It also means spaces are better utilised by removing hot and cold areas within the same space.



# Combating Heat Solutions

Increased thermal loading on buildings directly effects power usage particularly against refrigeration and air conditioning loads and significantly effects thermal comfort .



HVAC/R can account for up to 65% - 80% of the total power consumption for a business. Therefore, any improvements in the performance of your buildings thermal performance offers a good return in any investment made.

Net Zero Carbon & Energy offers :

- Reduces window and roof temperatures by 5 – 8 degrees
- Balances air loads to reduce air conditioning cycling
- Reduces air conditioning power usage by powering directly from renewable energy.
- Reduces roof and wall heat load gains & losses through specifically designed coatings.
- Improves thermal performance of the building & the comfort of the people inside.
- These technologies combined future proof buildings from the effects of climate change

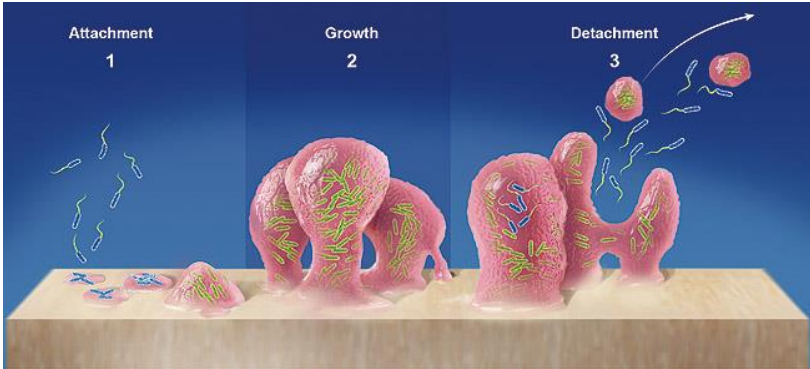
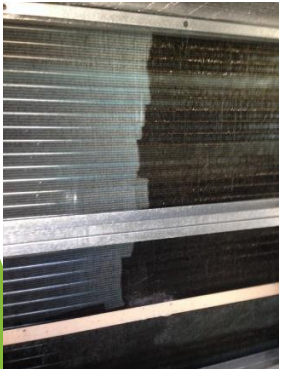
# Understanding the effects of Biofilm

Biofilms account for over 60% of human infections and chronic conditions

Biofilm is the single biggest health risk in HVAC/R Equipment. Bacteria latches on to Biofilm and releases sticky substances so that more and more bacteria attach to the biofilm. Biofilm is hard to remove because these polymeric substances have protective shell makes it difficult for traditional cleaning systems to remove.

In tropical environments increases the risk due to the additional humidity typically at play, in temperate environments this is typically in the summer months. These types of infestations can create sick buildings, increase energy consumption and propagate mold infestations. This can lead to significant losses in productivity, operational expenses and asset value.

In refrigeration systems this effect can go on undetectable for years as traditional coil cleaning can compound the biofilm back into the coil. This can increase spoilage and also stock losses.





# Safe Spaces - Technologies

## CLEAN DUCTING



CLEANS AIR DIRECTLY INTO DUCT SYSTEMS

## CLEAN ROOM SPACES



CLEANS AIR IN ALL INDOOR AREAS

## HVAC & REFRIGERATION REMEDIATION



SAVES ENERGY BY REMOVING RESTRICTIONS AND KEEPS SYSTEMS TO DESIGN

## CLEAN AIR BALANCING



TO DESIGN CAN BALANCE AIR SPACES IN 2 MINUTES AND CLEAN THE AIR AT THE SAME TIME

These technologies offer a clean air environment and can have a whole building approach. They virtually nullify the effects of viruses, VOC's and air borne pathogens.



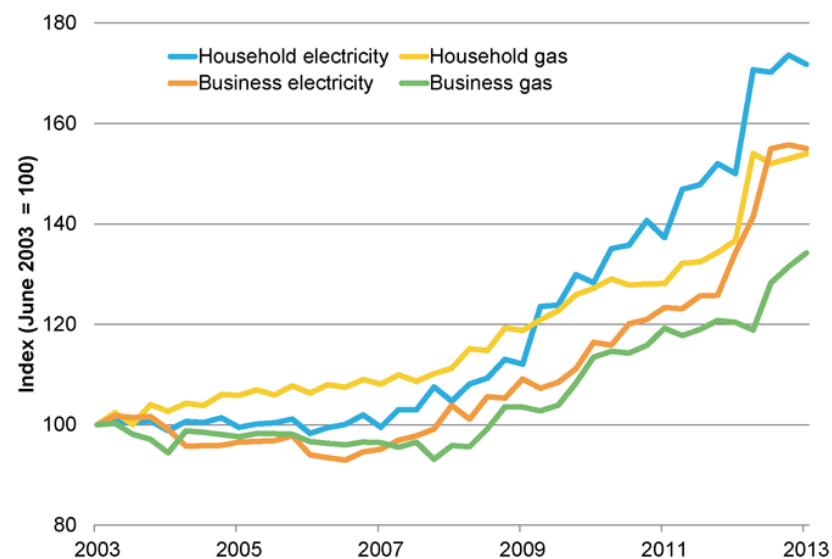
# The Energy & Carbon Dilemma

Since 2003, energy prices have increased by over 50% to commercial and industrial businesses.

Energy costs are now in some cases the biggest operational expense to business and they are still rising. Carbon reduction is a significant part in ESG requirements and carbon reporting to the federal government is a requirement to some businesses now.

The energy market makes up 26% of Australia's carbon footprint. Energy savings program fees are being passed onto businesses through their billing, and has done since 2008 which increased again in 2014. These scheme charges to consumers make up about 5-8% of their bills. These schemes are in place till 2050.

Our answer is a combination of energy efficiency and renewable energy combined along with improved maintenance processes. There is two different types of energy efficiency, one being direct change out to a more energy efficient technology and the other is avoided energy cost increases by utilizing a self powering technology upgrade where applicable. A combination of both energy efficiency and renewables is by far the best long term solution. Energy efficiency and renewable energy is a long term return on investment and leveraging energy savings schemes and rebates reduces the capital costs and increases the rate of return.





# Retrofittable Energy Saving - General

## VARIABLE SPEED DRIVES



UP TO 35% SAVINGS  
COMPRESSORS, PUMPS &  
FANS LOADS

## LED LIGHTING



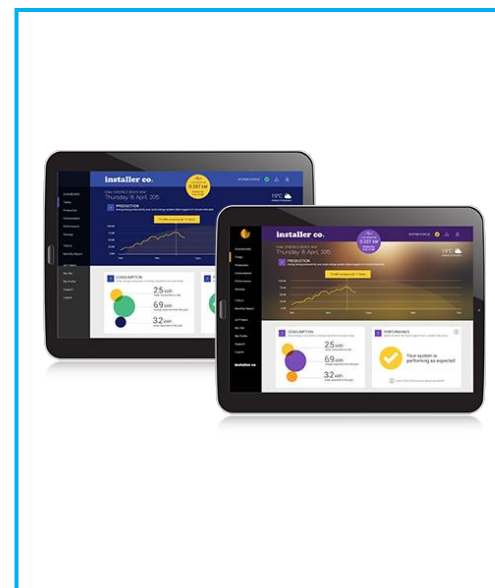
UP TO 85% SAVINGS  
LIGHT LOADS

## HOT WATER HEAT PUMPS



UP TO 75% SAVINGS  
IN HOT WATER COSTS

## ENERGY MONITORING



GIVES BUILDING OWNERS A CLEARER  
PICTURE OF HOW ENERGY IS BEING  
CONSUMED

These technologies are seen as the starting point in energy efficiency. Understanding how your energy is being used is critical to creating a plan for any building.

# Retrofit Energy Saving – HVAC/R



## ENERGY FILTERS



UP TO 22% SAVINGS  
REFRIGERATION  
CABINETS

## DX MOTORS



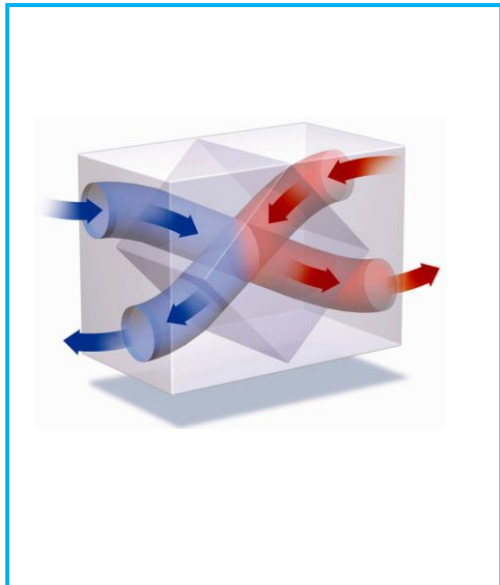
UP TO 10% SAVINGS  
REFRIGERATION  
CABINETS

## HVAC – OPTIMISATION



UP TO 25% + WITH AIR  
CONDITIONING OPTIMISATION

## AIR CHANGE BALANCING



UP TO 20% SAVINGS  
DUCTED AIR  
CONDITIONING

HVAC/R is 40% of the total energy used in Australia and is approximately 10.4% of all carbon emissions by energy use. HVAC/R makes up 70% of commercial building energy consumption so reducing HVAC/R loads can have a significant impact on OPEX costs.

# Retrofit Energy Saving – OPEX & The Future

## SURFACE TREATMENTS - OPEX



## REMEDIATION SERVICES - OPEX



## CAR CHARGING



## SOLAR POWERED COOL ROOMS



Remediation and cleaning of HVAC/R Equipment with the right products has a significant impact on your ongoing OPEX Costs. We offer introductions to businesses that offer industry leading standards on these products and services that bring back equipment to design standards and will leave ancillary infrastructure considerably better off. With our comprehensive understanding of the energy market we are investing our money into solutions that are state of the art.

# Combining Energy Efficiency & Renewables

Combining energy efficiency including avoided energy efficiency at the design & build stage can have a significant impact on the ongoing operational costs of the building. Most builders are not interested in your ongoing power costs, but your tenants are.



### CASE STUDY – NGO WOMENS SHELTER NSW – NEW BUILD

Completed in 2022, the site is the equivalent of four (4) domestic homes with up to a maximum of 36 residents and staff. It has an average daily use of 46-79kWh per day dependant on occupancy. Building footprint 430 SqM2. With the excess power generated and the site having no gas, year to date this site runs at Net Zero.

- 85% avoided energy consumed air conditioning
- 75% energy consumed in hot water used.
- 85% energy reduction – Solar & Batteries

This sites energy costs can be as little as \$0.30 cents per day



# Combining Energy Efficiency & Renewables

Energy efficiency and renewable upgrades will be moved into the direct value of buildings from 2024 with the introduction of a star ratings program which will add to the value of the building and also increase its worth to owners. The star rating system is designed to allow tenants to lease or rent spaces that reduce their ongoing operational costs.



## CASE STUDY – REGIONAL SUPERMARKET – RETROFIT

Completed in 2017, the site is a 660 SqM2 refurbished 1980's supermarket in regional NSW. Operational 364 days of the year with store operating hours on average 11.5 hours per day.

Installed 80kW of Solar / 10 x Solar Air-Conditioners / 22 Destratification Fans / LED Lighting Upgrade / 5 x Variable Speed Drives (Refrigeration)

- 85% avoided energy consumed in air conditioning
- 10-25% Energy reduction in refrigeration
- 80% Reduction in lighting energy costs
- 23% energy reduction – Solar

45% Reduction in Carbon footprint and energy use.



# Grants & Rebates

There are currently rebates available in NSW, Victoria, SA & ACT for state based and federal rebates

Working in conjunction with our registered contractors or registering our customers contractors along with our accredited certificate providers allows Net Zero Carbon & Energy to offer our clients the ability to claim rebates under schemes such as HEBA, HEERS, PIAM & V, the Energy Savings Scheme and the Emissions Reduction Fund to significantly reduce capital costs when equipment is planned and registered under the schemes.

This can be a minefield for business owners to navigate.

EMISSIONS  
REDUCTION  
FUND



Net Zero Carbon & Energy is an initiative of One Green Solutions Pty. Ltd.

