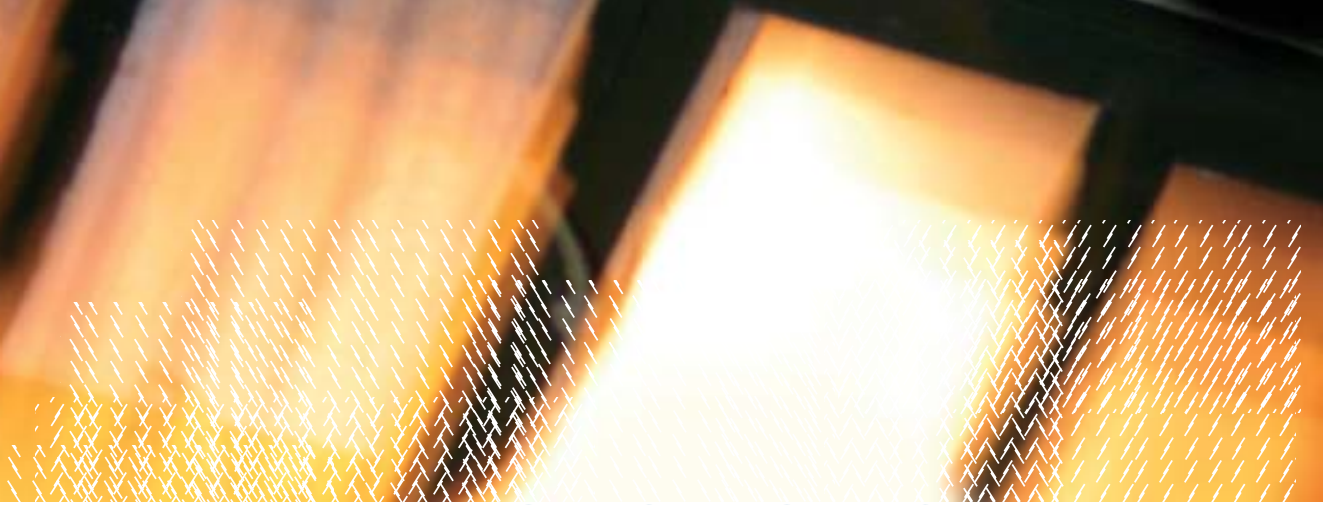

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WATER SOLUTIONS

water innovation

it's your future

>create your own water supply

>custom designed tank fitouts

>keep a garden green

>have freedom in your water use

CASE STUDIES INSIDE

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ACT SMART AND SAVE

PROJECT CONTRIBUTORS & SUPPORTERS

THANK YOU

EME Group would like to thank all who have assisted in our work. Numerous people have generously given up their time and expertise to assist us in producing this booklet.

Thank you for having the personal initiative and foresight to help the environment and produce beautiful, liveable designs.

PROJECT CONCEPT + RESEARCH

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EME Group
www.emegroup.com.au

PINBALL ANIMATION

Vivienne Hunt

BOOKLET DESIGN

UP&UP_communication design
www.upandup.com.au

ecologically motivated environments
EME Group
www.emegroup.com.au/urbanwater

Smart Water Fund

HOW MUCH WATER CAN YOU SAVE?

- 4 demonstration homes, further testimony to benefits of water conservation.

WHAT ARE MY OPTIONS?

- 5 styles of tanks chosen to suit your home
- Architecturally designed homes that smartly integrate water storage tanks

WHAT DID WE LEARN?

- it is all easily achievable.
- If you live in an urban dwelling you can make significant savings and preserve the environment while adding value to your property.

ALL TOO HARD?

- Check out the back pages for contact details of a specialist to help you out.

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CONTENTS | bright ideas!

OUR AIM

60%

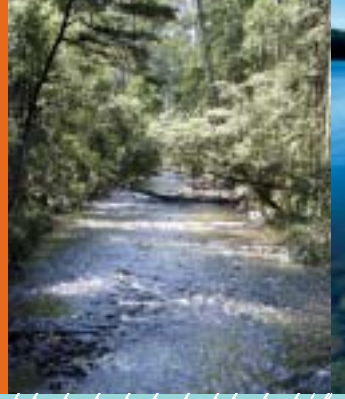
LESS WATER TO CITY HOMES

WHY WE CARE

Australians love water. The challenge is how to keep it around us? EME Group works with clients and developers to provide fully integrated storage tank and water saving systems. Helping to preserve our waterways.

WHAT WE KNOW

More than 90% of rain that falls in urban areas is not collected for re-use. This run-off mixes with contaminated water from paved areas and is discharged in to our water ways resulting in polluted rivers and beaches that are no longer fit for swimming.



SELF RELIANCE = FREEDOM

EME GROUP UNDERTOOK THE PROJECT, WITH THE SUPPORT OF THE SMART WATER FUND, THE AIM TO REDUCE OVERALL WATER CONSUMPTION BY 60%

Working to create standardised solutions for integration into various types of urban homes, with an exceptional architectural design quality.

We are developing prominent residential buildings across Melbourne that provide fully integrated water conservation and water recycling programs. So far the results have been astounding, with one demonstration project saving up to 70% on its mains water consumption.

We are committed to the education and increased awareness of energy and water conservation in the public domain. Information booklets, such as this, are designed to demonstrate simple and effective ways to achieve maximum water conservation on the home front.

The booklet contains information on water saving facts and figures, water storage & collection solutions and water saving products. Also provided, are the contact details of manufacturers that can help you achieve significant water savings in your own home.

WHAT CAN WE DO

We do not need drinking quality water to flush our toilets or water our gardens. This is where fitting a tank in your home and choosing quality water saving fittings can reduce the strain on our reservoir stores.

THERE ARE WATER TANKS FOR EVERY SITUATION

Fitting existing homes has become easier with innovative tank designs. A tank allows you to sustain a green garden independent of the reservoirs. You can create, and more importantly control, your own personal reservoir.

COMPACT CITY BLOCK|Prahran

FREE ENERGY

BRIEF

Adaptable home with integrated work studio for Melbourne fashion designer.

solution - light, airy and flexible home, 2 master bedrooms with upper level studio, spacious courtyard with timber decking.

ENVIRONMENTAL CONSIDERATIONS

- Water feature
- 5500 litre fibreglass tank submerged under the deck
- Water recycling systems
- Water efficient AAA fittings
- 5 star energy rated

CONTEMPORARY LIFE BALANCED AGAINST RESPECT FOR OUR PRECIOUS RESOURCES

"MY TANK SAVES 4000 LITRES EVERY MONTH"

Located in an inner suburb of Melbourne this design for a double storey residence merges sustainable principles and urban context with unique spatial planning and materials.

SAVING WATER WITH CREATIVE DESIGN

The fashion designer required a flexible space that is easily redefined to suit her contemporary lifestyle. Spaces evolve from night to day, work to entertaining, and for a changing number of occupants.

On approach the building sits quietly among existing Victorian cottages. Its unobtrusive façade is considerate of surrounding buildings and strict council controls. On closer inspection the building reveals a second storey concealed by its dramatic roof line.

The house makes vivid the daily passage of the sun and cycle of seasons by means of a centralised reflection pond and strategically positioned glazing.

In addition to its unique design, it also features advanced energy and resource-conscious features. A 5500L water storage tank has been concealed under a timber deck courtyard. Rainwater is collected from the roof, stored in the tank and used to flush toilets and for garden irrigation.

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SITE RESPONSIVE

BAYSIDE LIFESTYLE

BRIEF

Two separate medium density developments in the same street. Both designs respond to the site environmentally and utilise recycled water. A true example of environmental initiative.

ENVIRONMENTAL CONSIDERATIONS

- Tanks used as a sculptural feature
- 20,000L tank
- Water recycling systems
- Water efficient AAA fittings
- Low-flow taps and shower heads.
- Wind cooling system

"These buildings not only substantially reduce water consumption, they also help to clean up Port Phillip Bay and ultimately our much loved beaches"

Located a stones throw away from Bay Street shopping strip and train station this design is a terrific example of the new trends in ecologically responsive medium density housing.

The project features passive solar design, cross ventilation and significant recycling of stormwater.

Underground tanks store rainwater collected from roofs reducing reliance on mains water and relieving pressure on public stormwater systems.

Water is filtered and stored in a 20,000L tank in the basement car park and used for flushing toilets, irrigation and car washing. This helps to clean up Port Phillip Bay and ultimately our beaches and waterways. Energy efficiency is a prime consideration in the design. Living spaces are located on the first floor and orientated north, maximising light and free energy provided by the sun. The roof form, while acknowledging the transition from smaller scale houses to larger commercial structures on Bay St, capitalises on seasonal weather patterns. Capturing cool sea breezes in summer and gently directing them through the building, provides natural and free cooling.

Given dollar and environmental savings achieved, it is easy to see why there is a trend towards 'eco design'.

5 These townhouses have been awarded a 5 star energy rating for energy efficient design and architectural innovation.

COASTAL HOLIDAY|RETREAT

COASTAL SENSITIVITY

BRIEF

A holiday house for one primary family and additional accommodation for a secondary family while still maintaining privacy between the two.

ENVIRONMENTAL CONSIDERATION

- Rural and Coastal Character
- Solar Power & Heating
- Water Collection and Storage
- Mature Established Vegetation
- Strong Sea Winds

Urban

The Mornington Peninsula has forever signified an escape destination for Melbourne city dwellers. Characterised by gentle green hills, accessible sandy beaches with rocky platforms and mature coastal plants and trees, the rural/coastal combination is ideal for a relaxed holiday retreat.

The familiar "Australian farm shed" was the design starting point. The building type was broken down and skewed to create increased northern aspects and views, outdoor living spaces, and achieve the required separation of the two family sleeping areas. This separation of spaces facilitated the creation of "in between" spaces. These spaces developed, with consideration of winds and sun, into seasonal courtyards and activity zones.

FAMILY RESORT|BLACK ROCK

WATER CONSERVATION

BRIEF

Catering for an extended family this resort like home strikes a balance between lavish design and concerns of building performance and environmental impact.

ENVIRONMENTAL CONSIDERATION

- 15,000L underground tank
- Solar heating, hot water, pool heating
- Recycled water irrigation
- Recycled water to flush toilets

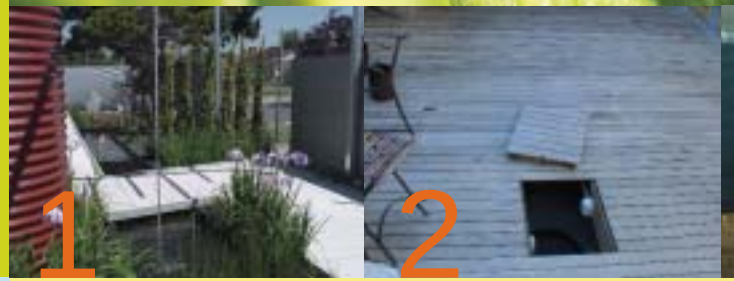
Planned over three levels the main house also features basement parking, entertaining area with bar & pool interface, cinema, rooftop spa & bbq area and a sunken lounge that takes in Bay views while controlling the Western sun.

Simple geometries are used on a large scale to create dramatic spaces over multiple levels. A central void & vaulted ceiling create a focal point linking the three levels. It further functions as a heat stack, allowing warm air to be drawn out and circulating cool air through the building.

The water conservation plan includes a 15,000L tank to service the pool and spa areas, irrigate the landscape and flush toilets. This project is an excellent example of prominent high quality architecture, specifically designed for client needs, while integrating the principles of water and energy conservation.

WITH A TANK IN YOUR HOME YOU HAVE FREEDOM OF WATER USAGE

- >PLACE UNDER EXISTING TIMBER FRAMED FLOOR OR deck
- >INSTALL UNDER DRIVEWAY OR LAWN
- >INTEGRATE WITH GARDEN DESIGN



CORRUGATED IRON TANKS

- Above ground system
- Variety Sizes, Shapes & Colours
- Traditional Corrugated Australian Appearance

POLYURETHANE TANKS

- Submergible Up To 80%
- Variety Sizes, Shapes & Colours
- Tough & Durable

FIBRE REINFORCED TANKS

- Submergible Up To 90%
- Variety Sizes, Shapes & Colours

BLADDER TANKS

- Flexible and durable
- Variety Custom Sizes & Shapes
- Can be concealed under House, Deck, Etc

ATLANTIS WATER SYSTEM

- Underground System
- Variety Sizes, Shapes & Configurations

The benefits of a water tank in your home are substantial. With a water tank you can have greater flexibility during water restrictions, save on water bills, add value to your property, and do your bit to help the environment.

The next step is selecting the right tank solution for you. There is a wide range of tanks available to suit just about any situation and taste, from traditional corrugated through fibreglass, to tanks designed not to be seen at all.

They can be concealed in a new home, extension or existing home for sites with restricted space, or incorporated into landscape, providing a talking point at your next bbq.

EME Group holds an extensive database of available tanks and can aid in the selection of a tank for your specific situation. Urban land is a scarce commodity with a high value, our creative solutions consider available space, cost and the overall design of your home.

A selection of tank manufacturers is listed on the inside back cover. Manufacturers will be able to provide general information on tank types and sizes.

So, whether you're building a new home, extending, or have an existing home there's a tank for you.

"In all cases the installation of a tank and AAA rated products and appliances resulted in a minimum 40% saving."

The 'typical Melbourne home uses approximately 250,000 litres' of water each year. The chart below illustrates the percentage breakdown of water used in different areas of the house.

"Look at what you can save!"

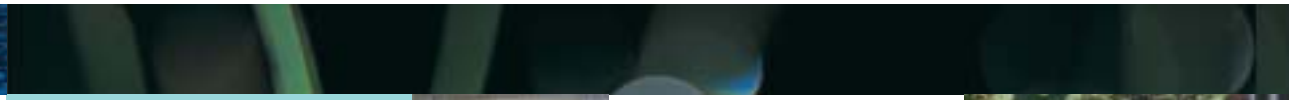
The comparison of homes with water tanks and AAA rated products against those without, demonstrate significant savings in different size households.

SMALL HOUSEHOLD: A small inner city residence with one full time occupant.
RESULT: An annual saving of 77,488 L.

MEDIUM HOUSEHOLD: A medium sized home with two full time occupants.
RESULT: An annul saving of 124,004 L.

LARGE HOUSEHOLD: A large sized residence with 5 full time occupants.
RESULT: An annual saving of 230,954 L.

NB. Contact EME for milestone report detailing calculations and project parameters.



DISHWASHER

Only consider an AAA rated dishwasher with a high energy rating.

TOILETS

Replacing a old style toilet with a new 6/3 dual flush saves up to 10 litres per flush. Older style toilets can use 13Litres per flush!

WATERING THE GARDEN

Consumes a large amount of water using mulch is an effective way to minimise evaporation.

"Seek advice on pumps to ensure adequate water pressure"

WATER FITTINGS

Utilise contemporary water saving fittings which dramatically reduce usage.

WASHING MACHINE

A front loader AAA washing machine uses 50% less water, 40% less energy and 50% less detergent than a top loader.

"Invest in the future and save"

LUKE MIDDLETON
EME GROUP

"Australians are in for a big shock soon. Gas, electricity and water prices will go through the roof. Environmental issues, diminishing supply, higher usage, greater regulation, etc. These all mean price increases. Water tanks, alternative energy sources and better use of resources will be money well spent."

"It makes economic sense now. My 3000 litre water tank is amazing,...I'm constantly surprised how quickly it fills up and how much water it saves."

Tony Pride
WILSON PRIDE REAL ESTATE

"I have no doubt that the installation of a water tank system not only adds value and a point of difference it provides peace of mind..."

Richard Crane,
HODGES REAL ESTATE

"We believe in high quality homes with low running costs. Excellence without abundance."

Jack Crawford
JBC BUILDERS

EME DESIGN PRINCIPLES

EME has a proven track record of working closely with our clients to design unique buildings that reflect client sensibility and bring out the best attributes of each site. This unique architecture is achieved through a design process that is highly responsive to client individuality. Further, our design process is without deterministic pre-conceptions encouraging organic growth of the clients ideas and the opportunities presented by the site. We are interested in architecture that optimises the PERFORMANCE OF BUILDINGS, by recognising potential that lies in natural energies and the immediate environment. We create HEALTHY environments that employ techniques of solar ORIENTATION and naturally induced VENTILATION, to reduce reliance on artificial devices.

Our designs significantly reduce the consumption of energy, saving resources, preserving our quality of air, and saving the occupant money. EME has a policy of continuous research to uncover the attributes of new sustainable products, systems and materials.

LINKS

- The Smart Water Fund
  www.smartwater.com.au
- The Environmental Protection Authority (EPA)
  www.epa.vic.gov.au
- The CSIRO
  www.csiro.au
- The Department of Sustainability and Environment
  www.dse.vic.gov.au/dse/
- ATA-Alternative Technology Association
  www.ata.org.au
- The Sustainable Living Foundation
  www.sustainablelivingfestival.org
- www.smartwater.com.au
- www.emegroup.com.au/urbanwater

THANK-YOU

EME would like to thank all who contributed and supported this project.

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UP&UP_ communication design
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Luke Middleton, Nathan Mountford, Lisa Jennings, Peter Brook, Richard Clarke, Mark Friedlander, Andrew Meehan, Don Breen, Alex & David Shustin.

Images supplied by Melbourne Water & South East Water. Paper Supplied by Raleigh Paper.

MANUFACTURES	PHONE	SUBURB	SIZE RANGE	MATERIAL/S	SUBMERGIBILITY AG	UG
Ace Tanks	03 9791 4044	Dandenong	180 - 27,000	Colorbond	100%	0%
A1 Water Tanks	03 5476 6220	Daylesford	364 - 9,080	Colorbond	100%	0%
ARI Plastanks	1800 069046	Head Office	100 - 45,400	Poly	100%	50%
Atlantis Water Management	03 9444 7971	Greensborough		Plastic	0%	100%
Bluescope Steel - Aquaplate	1800022999	Head Office	180 - 27,000	Colorbond	100%	0%
Bushmans	03 5592 1888	Terang	509 - 47,950	Poly	100%	80%
Float Pac	03 9887 5277	Boronia	300 - 20,000	Bladder	100%	0%
Icon Industries	03 93162601	Altona	162 - 27,240	Poly	100%	50%
Linpac Rotational Mouldings - Tankmasta	1800658265	Head Office	340 - 45,000	Poly	100%	50%
O.P.S. Country Tanks	03 59402191	Pakenham	520 - 22,500	Poly	100%	50%
Polymaster	1800 062 064	Swan Hill	500 - 31,700	Poly	100%	50%
P.C. Ridgeway & Co.	03 9330 2333	Airport West	100 - 45,400	Poly	100%	50%
Rain Reviva	03 9735 1111	Lilydale	300 - 20,000	Bladder	100%	-
Tankworld	1800 68 69 70	Swan Hill	228 - 45,500	Fibreglass	100%	80%
Team Poly	08 83262256	Lonsdale, SA	545 - 54,000	Poly	100%	80%
Water Store Poly Tanks	03 5435 2388	Marong	225 - 54,000	Poly	100%	50%

AG= % of tank that can be Above Ground

UG= % of tank that can be Underground

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WATER SOLUTIONS

DID YOU KNOW?

- In one hour of rain a family home could collect up to 6000 litres of water.
- By collecting water at homes we can dramatically improve the ecological condition of Port Phillip Bay and rivers such as the Thompson.
- Taking a 4 minute shower instead of a 6 minute shower will save 10,000 litres in one year.
- Install an efficient shower head to save 9 litres a minute, that is at least 10,000 litres per person a year.
- For additional information or copies of the booklet visit: **www.emegroup.com.au/urbanwater**

ecologically motivated environments
EME Group