



AQUAREVO
LYNDHURST

A leading edge water and energy efficient residential development



Communities Designed for Living

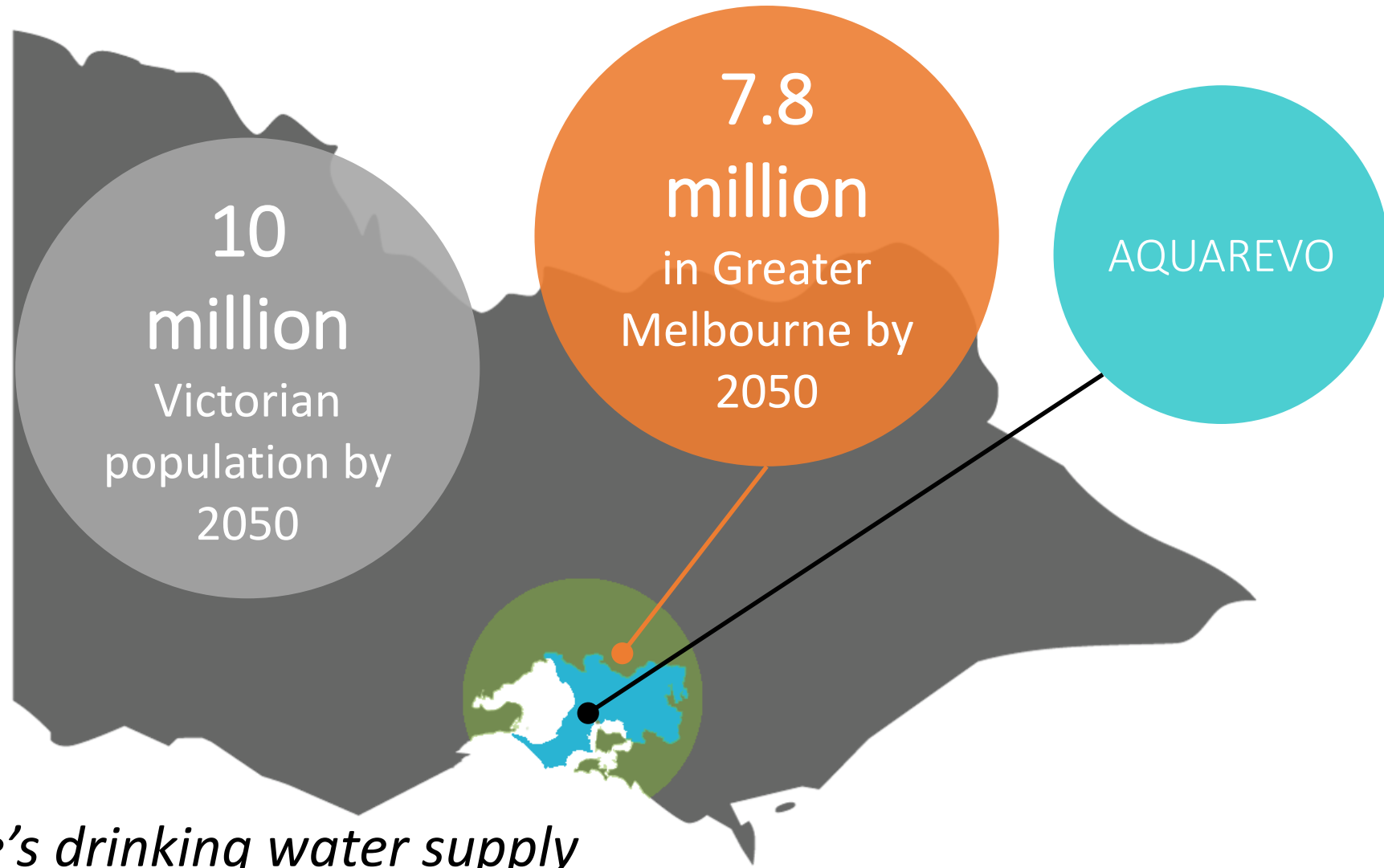


CRC Water Sensitive Cities Conference, March 2019
Rory Costelloe, David Bergmann

The drivers of change...

- Population Growth
- Urbanisation
- Climate Change

= demand on Melbourne's drinking water supply



AQUAREVO

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- Former Cranbourne Treatment Plant – land owned by SEW
- Villawood selected via tender to partner with South East Water
- Unique financial model, no risk to Government
- Commenced planning in 2014
- First Sales in late 2016
- Commenced construction in early 2017
- Approx. 50% of lots sold to date.
- First residents move in April 2019



A Developer With a Difference ...

2003-04

2006

2008

2009

2010

2014

2015

2016

2017

2018

2019



2003 Seasons Green Guide



2004 Promenade Green Guide



Sustainability Street Educational program

First private developer to undertake 'Sustainability Street', a program designed to get people out of their houses and form a community.



Positive Change

Captured on the web for all Villawood Properties estates. Can be used nationwide to create demand for sustainable homes in the market place.



Finalist

United Nations (Aust) Environmental Award



The Nature of Villawood

144 page hard cover picture book captured through the eyes of photographer, Kathryn Potemski, it is a stunning visual tribute to the rare beauty of nature within Villawood's residential communities.



Green Savings Calculator & App

A helpful online tool for those looking to build a new home or renovate, the Green Savings Calculator offers tips and ideas to help you save water, save energy and save money.



Marriott Waters

UDIA (Vic) Enviro Development Four Leaves First Accreditation Awarded in Victoria



ARMSTRONG Green Street Display Village

The Australian-first 'Green Street' Display Village showcases 36 homes from the country's leading builders, several of which are exclusively on display at ARMSTRONG.

The homes surround an extraordinary children's playground featuring 18 cubbies plus a host of other fun elements - this is the only display village the kids actually WANT to visit.



Trillium UDIA Healthy Living Award

Trillium combines creative, intelligent urban design and thoughtful community engagement initiatives to foster community health.

Features include a residents' club, three spacious parks and a quality mix of housing. The result is a healthy, vibrant Villawood Properties community with design to ensure ease of movement by foot, bike and car both within the estate and to its surrounds.



Armstrong UDIA Landscape Award

Armstrong has been highly commended for the Display Village in the 'Green Street', an interactive landscape and play area dominated by mature planting and numerous 'cubby houses' all set in a secure but accessible space.

Armstrong will feature a waterfront dining precinct in addition to a showpiece Club - Armstrong Residents' Club - a \$7.5 million state-of-the-art facility, including a gymnasium, heated swimming pool, tennis courts and café.

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Launch of Aquarevo

Aquarevo is a ground-breaking new community by South East Water and Villawood Properties - combining the innovation of One Box and TankTalk, along with rainwater used for hot water, recycled water, and solar panels.

Aquarevo world's largest energy storage agreement

Villawood and South East Water enter an arrangement with the world's largest domestic energy storage group (Gomern of Germany), and Bristle Roofing Australia, that will see future purchasers at Aquarevo provided a 9kW h solar battery as part of their purchase.

Aquarevo First foundations laid

The foundation is laid on the first home under construction at Aquarevo. The eight star green star energy efficient home by Arden will showcase cutting-edge water and energy saving initiatives to the broader public.

520Ha Forested Back

Villawood Properties transfers an additional 255ha to the Greater Bendigo National Park. Over the past ten years, Villawood has given 520ha (the equivalent of 270 MCGs) to the Greater Bendigo National Park, the equivalent of every Lot sold during this time.

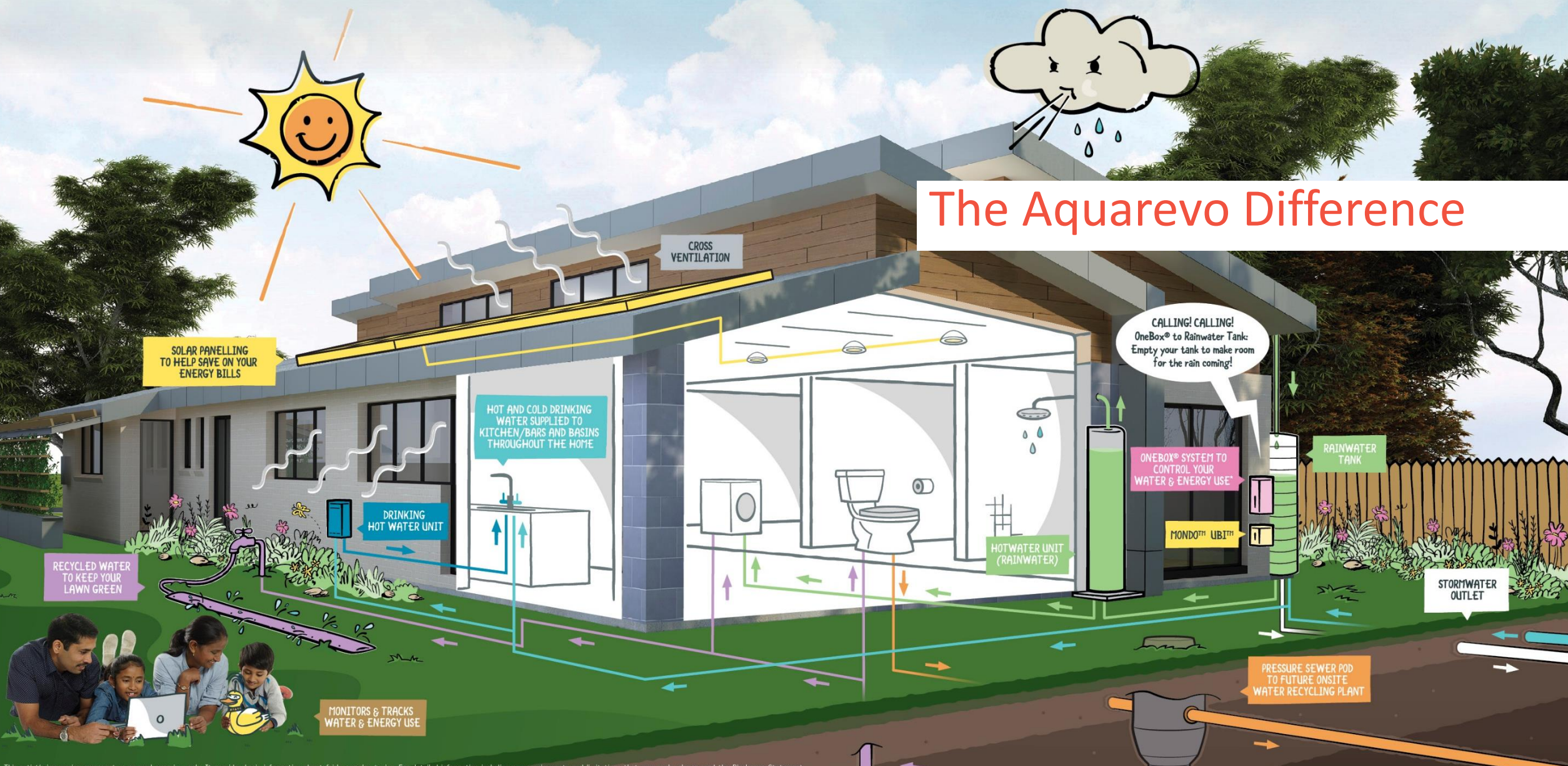


Good Friday Charity Home Auction

Villawood proudly celebrates its 10th year of partnering with Henley to auction a premium House and Land package at Delray with all proceeds going to the Royal Children's Hospital.



The Aquarevo Difference



This artist's impression represents a general overview only. It provides basic information about fairly complex topics. For detailed information including any requirements and limitations that may apply, please read the Disclosure Statement, the Contract of Sale of Land, Design Guidelines, South East Water Conditions of Connection and South East Water Supplementary Agency Agreement. These are the only documents that can be relied upon to comprehensively describe the rights and obligations of customers. Please refer to the Design Guidelines for further details.

Integrated water benefits at Aquarevo



70% reduction in potable supply – *by use of rainwater and recycled water*

75% reduction in wastewater discharged offsite - from estate water recycling plant

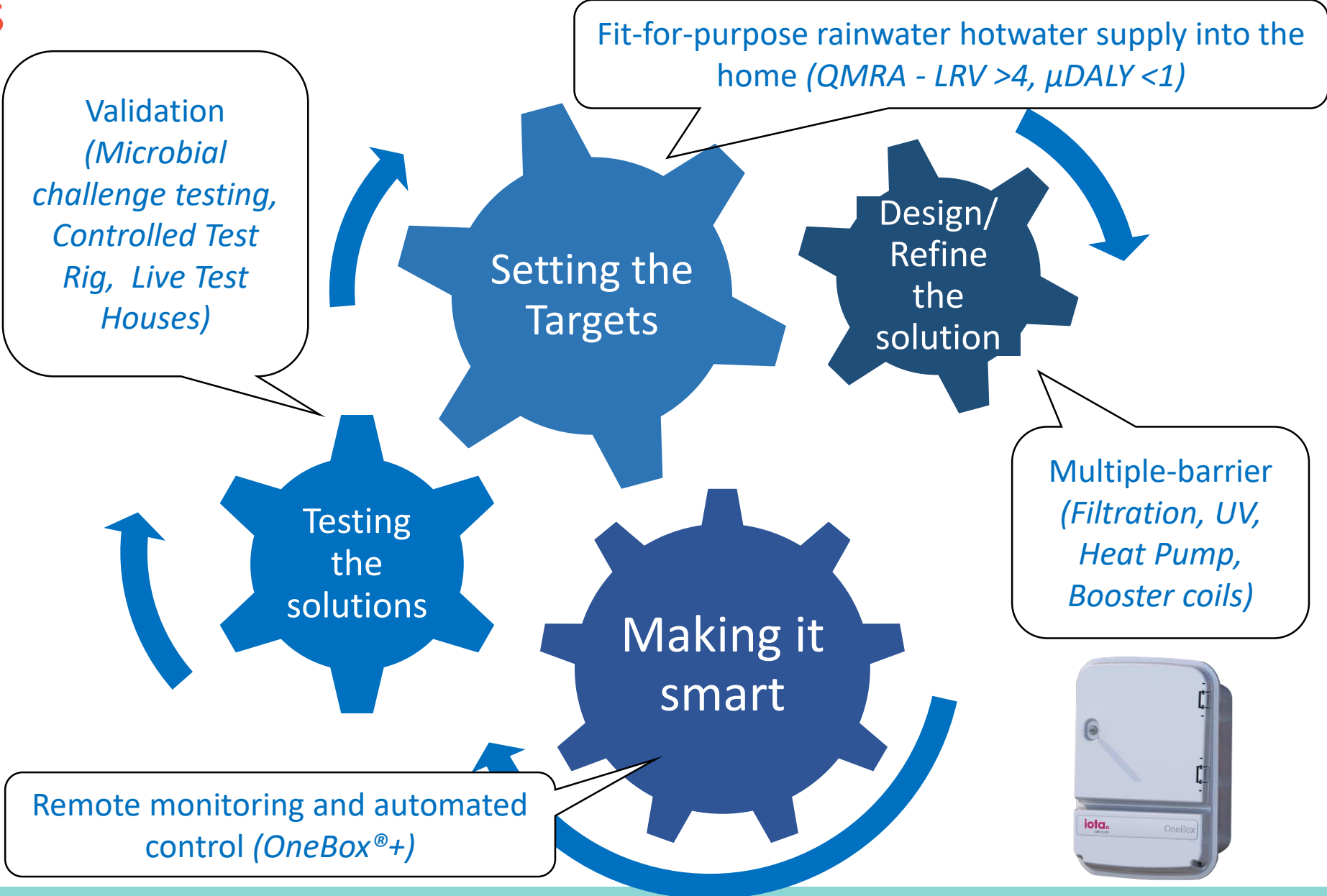
55% reduction annual stormwater discharge – *by use of rainwater tanks*

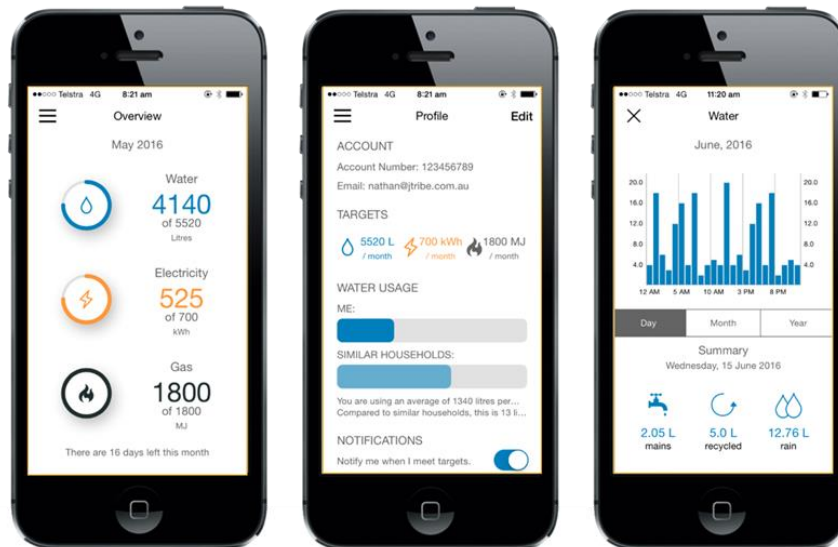
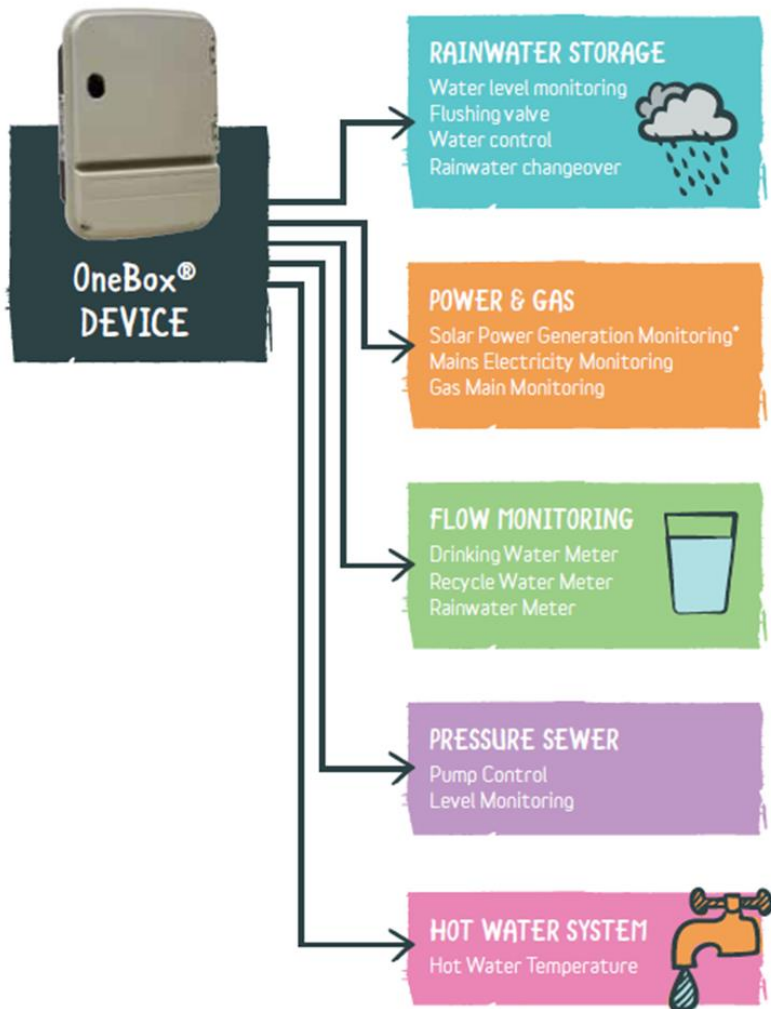
26% reduction to peak runoff events - *from TankTalk® technology*

35% reduction in stormwater nutrient loads beyond best practice - *from rainwater harvesting*

~55 ML/year of water infiltrated to enhance soil moisture and support urban forest – *via wetlands*

Challenges





Energy Saving Initiatives



Bonus
5kWh
battery



<i>Panels kW Size</i>	<i>Battery kWh Size</i>	<i>Family</i>	<i>*Savings %</i>
3kW	5kWh	👤 👤 👤 👤	61%
5kW	5kWh	👤 👤 👤 👤	84%
5kW	7.5kWh	👤 👤 👤 👤	96%
5kW	7.5kWh	👤 👤 👤 👤 👤 👤	85%



Purchaser Education and the Sales Process

- Discovery Centre established to support the early sales process
- Prior to acquiring a lot purchasers received extensive briefing on all initiatives
- Unique and clever marketing and information packages created
- Due to the overwhelming demand a ballot system was adopted
- Education Events held at Builder/Purchaser Expos





Builder Education Process

- Homes built within Aquarevo are required to be Aquarevo compliant
- Builders were educated on the design changes required for a pre-approved design
- The pre-approval process was vital for the home builders to ensure ease of sales
- Regular meetings with SEW to ensure the initiatives are understood and adopted.
- Construction process meetings with SEW and builders to ensure the construction process works smoothly with the inclusion of the initiatives.
- Villawood held Builder Expos to allow builder representatives direct access to purchasers with land.



Demonstration House

- SEW, Villawood and Arden have joined together in partnership to create an eco-friendly, sustainable home – the 'Empire 28'
- Demonstrates all the Aquarevo initiatives and a host of energy efficient solutions, enabling it to achieve an 8-star energy rating.
- The Empire 28 is ideally positioned so the living and entertaining areas are situated to the side of the home, maximising solar access, circulation and natural light.
- Landscaped to maximise cooling effect
- Important to be able to touch and feel!

ARDEN
HOMES



Challenges

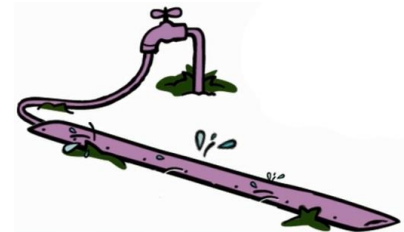


It hasn't all been smooth sailing! It's taken time and patience to get ensure Aquarevo initiatives meet regulatory requirements and have buy-in from key partners/suppliers.

- **Department of Health engagement** re the rain for hot water
- **EPA approvals** for the estate treatment plant
- **Builder house designs** – meeting Aquarevo specifications
- **Purchaser education**
- Bringing **Council** along for the journey



*“Creating a joint venture between a Government organization (South East Water) and private enterprise - each organization has had to **adapt and be flexible** in the way we approach issues, and how planning/execution is handled. “*



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How it works...

At the centre of the partnership is a deep commitment to the overarching vision of Aquarevo.



Through open communication and collaboration, all parties have adapted to create an Aquarevo way of doing things, to bring the vision to life.



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Thanks



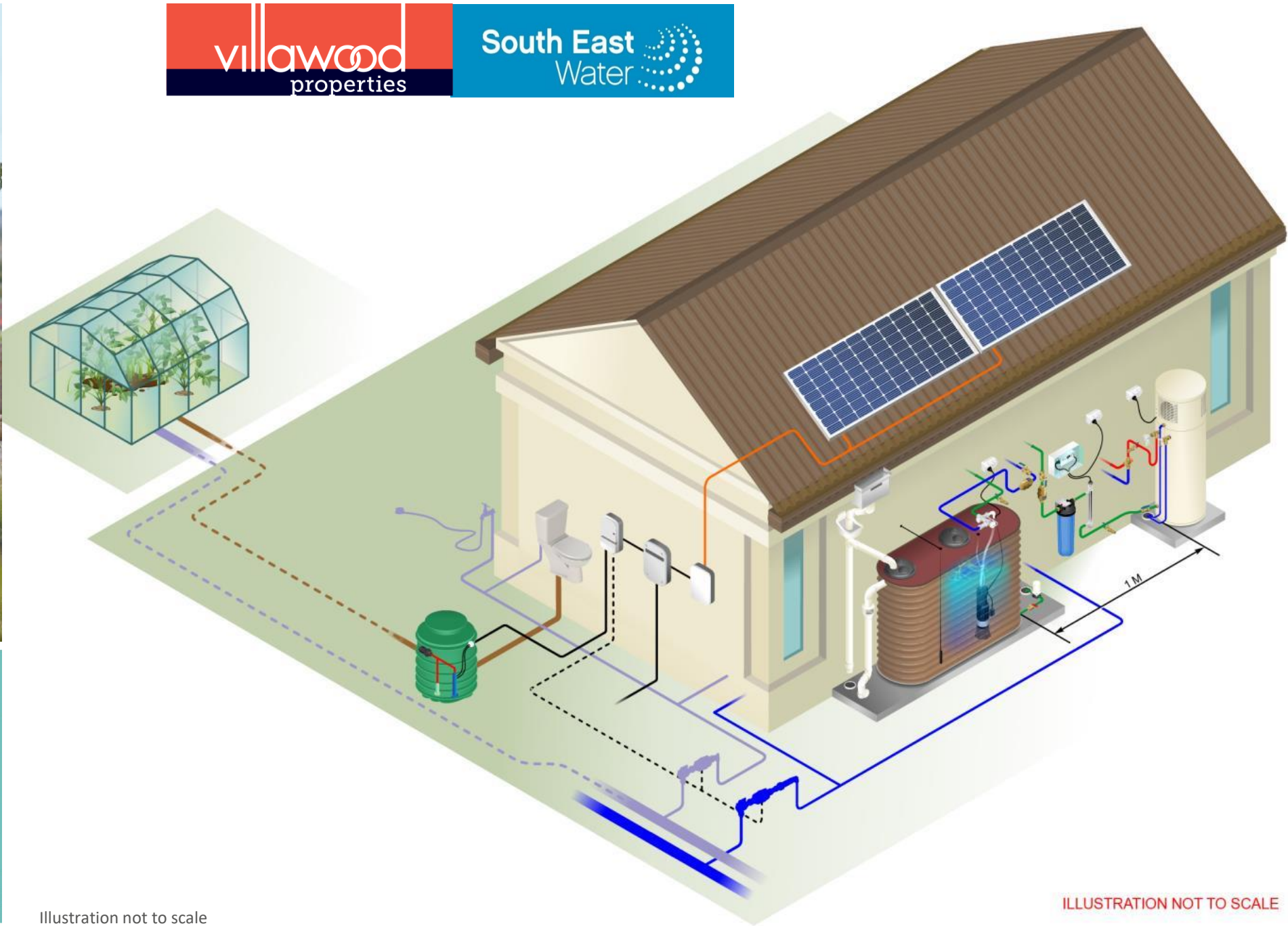
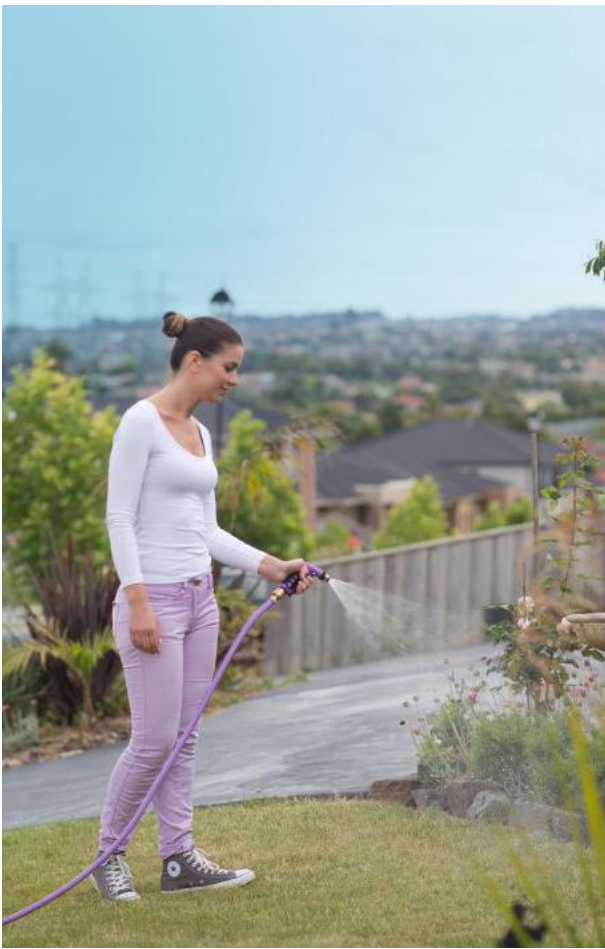


Illustration not to scale

ILLUSTRATION NOT TO SCALE

UP TO 70% DRINKING WATER SAVED BY EVERY AQUAREVO HOME[^]

^Terms & Conditions Apply

Rainwater

Every home at Aquarevo will be fitted with a “Rain to Hot Water System” – including;

- Rainwater tank
- UV filtration
- High-tech hot water system

Treated rainwater will be provided to hot water taps in the **shower, bath, laundry trough and washing machine.**

Potential for flood mitigation too....

