



Creating homes and neighbourhoods
that work well into the future
and don't cost the Earth

Water Use Efficiency: the value proposition for local government

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Beacon Pathway Limited

Beacon Pathway



- Beacon Pathway Ltd is a research consortium that's working to find affordable, attractive ways to make New Zealand homes more sustainable
- Its Vision is simple:
“Creating homes and neighbourhoods that work well into the future and don't cost the Earth”



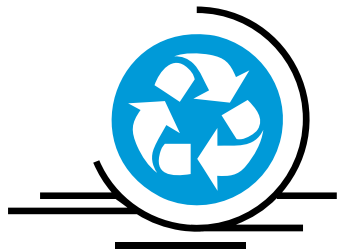
BEACON WATER TARGETS

1. All Homes - reducing per capita demand for reticulated water by 40% and council mains supply by 50%.
2. All Homes & Neighbourhoods – Effective management of three waters to create a more resilient water system



Why we need to conserve water

\$s

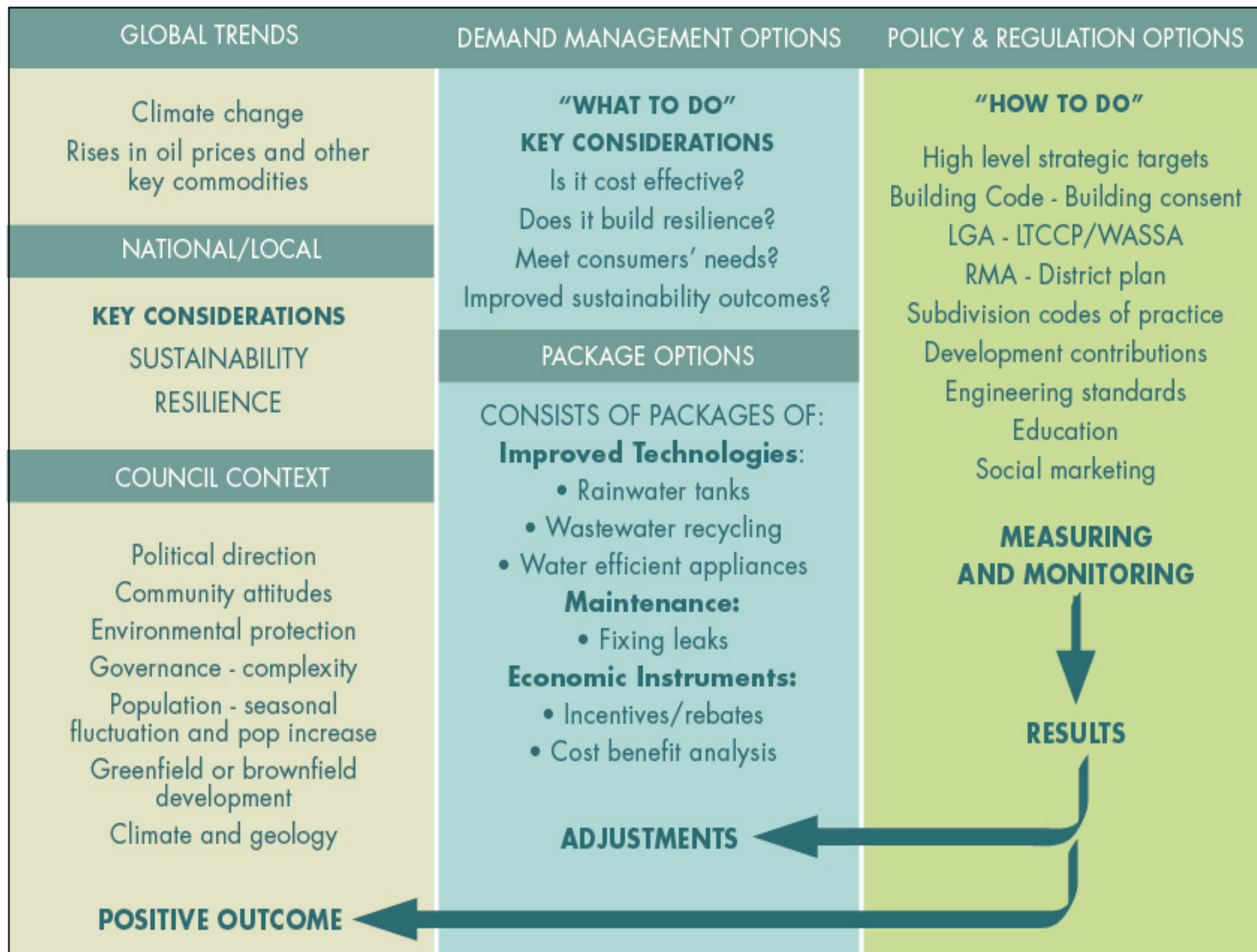


Comparison of daily per capita water uses

* =metered with volumetric pricing



<u>Council</u>	<u>Daily Per Capita Water Use Figure</u>
Nelson	160*
Waitakere	167*
Rodney	179*
Metrowater (Auckland City)	184*
Manukau	189*
Papakura	190*
Tauranga	214*
Upper Hutt	227
Christchurch	333
South Taranaki	450
Kaikoura	648
Kapiti	650
Queenstown Lakes District	750



Products	Costs \$s	Costs with installation	Water savings % of total use	Accumulative water savings % of total use
Gismo	2		5-10	5
Tap Aerators	10		5-10	10
Outdoor hose washers	2		2-5	12-15
Low flow shower head	75	150	10-15	22-30
Dual Flush Toilets (<5l)	225	300	10-15	27-40
4 star rated washing machine	1200		10	37-50
Rain barrel 400 litres or	300		10-15	47-60
Rain tank 4500 litres or	4000	4500	40-60	75 plus
Wastewater recovery system	3000	4000	20-40	60 plus

Case Studies Results



- Metering reduced water use by 25% in Tauranga
- Nelson considering demand management as alternative to contributing to new dam
- Wastewater charging considered the most significant demand management intervention in Auckland City
- KCDC have a District Plan change underway



Waitakere's Twin Streams Programme



Community Planting Days = Community Celebration

International Experiences



- UK has strong national framework
- USA; conservation accepted, state funding available for customers, automated meters, mandatory policy more effective than voluntary
- Canada; Have the Soft Path, based on modeling scenarios and backcasting, community involvement and political review
- Australia; National Water Initiative; strong multi-pronged approach, low hanging fruit taken and now more regulatory measures



Observations from council workshops



Allan Dale is just
a phone call
away.

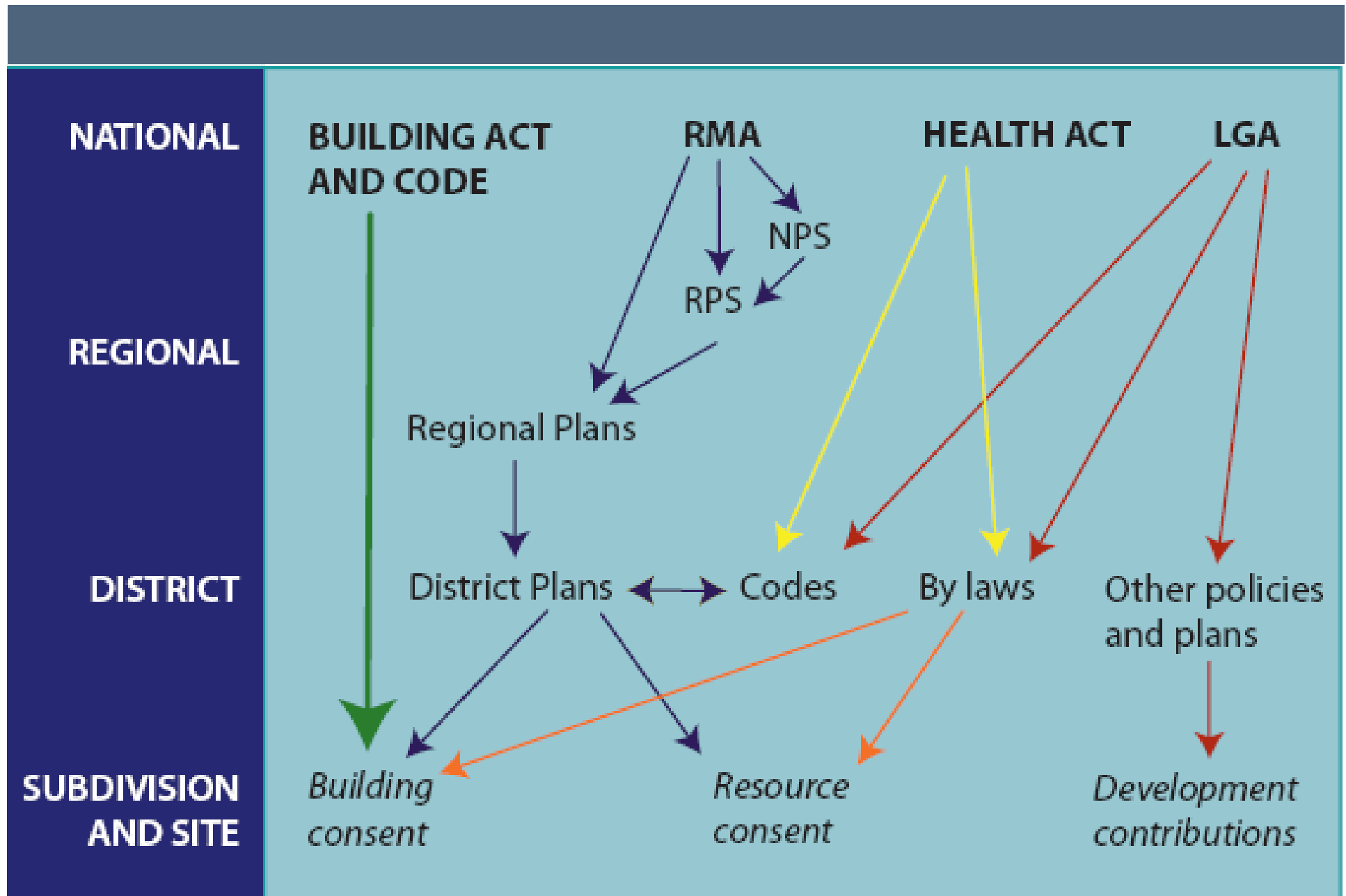


Views and attitudes:

- Recognition that DM is desirable, generally on financial terms
- Long term resilience not explicitly stated, little sense of urgency
- Desire to network and learn from others
- Concern and some confusion over health issues and maintenance issues especially with on-site water supply and recycling
- New staff and champions provided impetus for change

Techniques:

- Strong emphasis on education but recognition that brochures, websites alone was not enough
- Little exploration of economic tools or low cost options
- Need for market to be ready
- Mgt options like pressure reduction still under-utilised



Acknowledgement: Megan Howell

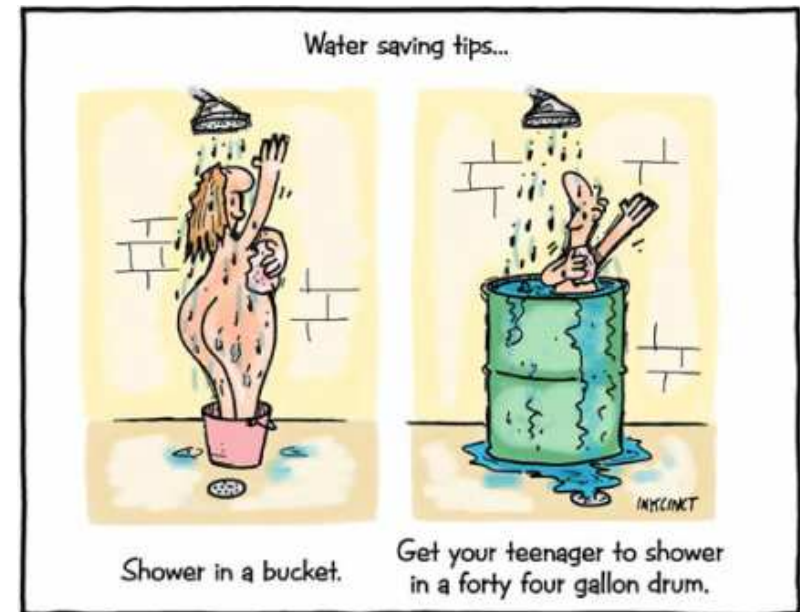
General conclusions

There are global attempts to limit water use

We could be using far less water with current technologies and management of systems

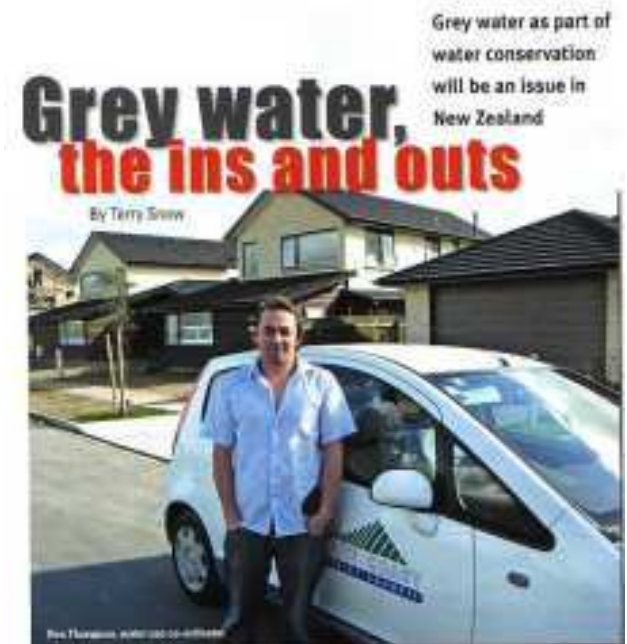
There are national benefits from saving domestic water supply

Our current legislation is not helpful in encouraging demand management or water use efficiency



Some specific lessons

- Metering generally shown to have immediate long-lasting impacts on reducing water use.
- Outdoor water use is key differentiator in New Zealand, also shown to be more price elastic in overseas studies
- Good water savings through retrofitting but moderate to high level of subsidy needed
- A multi-pronged approach required at council level
- Levelised costing of alternatives essential so demand management isn't simply seen as a cost.
- Importance of creative education but supported by other policies



“We can’t solve problems by using the same kind of thinking we used when we created them” Albert Einstein.

Our current water management systems are based on century old systems; its time for a smarter way

