# the Ancient Mariner SCENARIO BOOK FOR URBAN WATER MANAGEMENT TOWARDS 2030



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Cover poster: © The Day after Tomorrow (Korea) 2004





People who seek to look into the future may be seen by their peers as leaders — or part of the lunatic fringe; visionaries — or trouble-makers; idealists — or disruptors. Here are the creators of the 'Ancient Mariner Scenarios'. As 'future-thinkers' we honour you all and dedicate our work to your thinking.

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Ancient Mariner Scenarios

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## Introduction

Welcome to the Ancient Mariner Scenario Book!

Every day, messages about the delicate ecology of the future are delivered through the media and research, through draft legislation and dire warnings, and by the growing pressure on our precious resources – from old-growth forest to natural water, from oil to physical and mental health. The looming 'end of oil', indeed, the mounting pressure of accelerating economic growth on all global resources and the rrying capacity of the world, worries about climate change: these issues have created an environment of great uncertainty. The performance of the NSW water industry, too, is under the macroscope as water levels in our dams drop dramatically, rainfall has become less reliable and we experience yet another beautiful day in paradise.

Governments and companies world-wide, especially resources managers, seeking to make the right decisions for themselves and their stakeholders have increasingly turned to scenario planning because it includes the future, with all its doubts and uncertainties, as a positive input into the planning process. During the past decade it has helped organisations all over the world to create better strategic plans. It was with this in mind that Ku-ring-gai Council decided to embrace scenario planning as a way of better understanding the environment in which future decisions about water will need to be made. This in turn is to aid the development of a guideline to assist local government on behalf of the NSW Stormwater Trust to plan for a more sustainable water future and specifically assist in the management of stormwater.

Scenario planning is exciting. It enables us to manage our future by focusing on strategic uncertainties and their interdependence. It is not a quick fix. The 'Ancient Mariner' Scenarios are a beginning and suggest the need for further attention if we are to derive maximum benefit from them. This report, naturally, has been a team effort: in defining the scope of the project, stimulating divergence on the major issues and facilitating their convergence in the scenarios themselves. Scenario development is a continuous dynamic process and the work we have done is only a beginning. It too has a future...

This Scenario report contains four scenarios that were collaboratively developed as part of the Ancient Mariner Scenario-building project. For each scenario, a number of early warning indicators were identified representing an event or change in circumstance as key contributor to the future. While these are speculative, though underpin the development of the scenario, they enable us to identify possible public policy responses or strategies that governments and others will need to develop and implement. As the future unfolds, lead indicators of change will need to be monitored using a tracking strategy to enable the implementation of appropriate and relevant action plans

The water services industry is a complex system of public and private interests deeply *embroiled* in a world of fast-changing technology and consumer demand, with a burgeoning global and national focus on sustainability, market regulation customer service social outcomes &, ethics.

# **4**SIGHT

Cities, because of their scale, are peculiarly vulnerable to unpredictable perils. Hollywood has an impressive record of alerting ordinary folk in the West to alternative scenarios about the future. Each of the movies below picks up on a theme and builds a plausible scenario for us, both as an essay in imagination and as a cautionary tale.

We know that plagues, seismic convulsions, climatic fluctuations and apocalyptic wars as well as life-giving breakthroughs will happen, but we know not where or when. This Scenario Book develops from our own themes our own alternative futures for urban water management in New South Wales Nevertheless, like all good movies, good scenarios require more than plausibility, they require imagination, we must suspend, for a moment, our disbelief if we are to be able to use them to help us create a better future for the citizens of our State.

The Day the Earth Caught Fire (1961) After the super-powers accidentally set off H-bombs simultaneously the staff at Fleet Street's Daily Express report dramatic changes to the



world's climate. As London swelters and the Thames starts to run dry the paper's staff finally gets the Government to admit that the earth's axis has shifted.

Eventually they discover that the full truth is than this.

Waterworld (1995) Imagine a future without future where the earth, covered in water, has gritty, nautical society held together by and ingenuity. The inhabitants of this onceplanet cling to life on incredible floating existence constantly threatened by

bands of marauding pirates who roam the featureless

far worse even TERWORLD touched, trigger

dry land. A evolved into a determination flourishing cities, their Smokers-surface.

Invasion (1997) Small rocks fall from the sky which, when

a latent virus that has always existed in humans and begins mutating them into an alien species. Taking advantage of its hive mentality, the aliens are absolutely dedicated to transforming every human on Earth and do so with alarming swiftness. Only a small group of humans

remain who have the medical knowledge to devise antibodies to reverse the effects of the virus.

The Day After Tomorrow (2004) Professor Jack Hall tries to save the world from the effects of global warming while also trying to get to his son. Sam who was in New York City as part of a scholastic competition, when the city was overwhelmed by the chilling beginnings of the new Ice Age.In addition to all of the other challenges Dr. Hall faces, he's also going against the flow as humanity races south to warmer climes, and he's nearly the only one going north.



## **A Word or Two about Scenario Planning**

A scenario is a tool for ordering one's perceptions about alternative future environments in which today's decisions might be played out.

Scenario Planning is based on three core propositions.

The *first* is that strategic surprise is almost always a consequence of unexpected permutations between seemingly disconnected or unrelated forces.

The *second* is that at least some of these forces will come from diverse places outside the operational environment where organisations have adequate internal knowledge.

The *third* is that organisations benefit from a disciplined way to explore those kinds of permutations, study their implications, and sustain over time a Strategic Conversation that renders uncertainty into a set of manageable opportunities for action.

Pierre Wack, one of the original practitioners of scenario thinking said, "there are two main purposes of scenarios: one is to avoid regret; the other is positive and creative — to see new strategic options that you were previously not aware of."

Scenario Planning results in improved thinking which lead to better strategic decision-making and planning. It does this by building stories about different possible futures which flow from an understanding of the environment in which an organisation operates.

Scenarios represent '...the search for simplicity on the other side of complexity' James O'Toole

Scenario stories are developed by identifying the way key uncertainties interact in a systemic context – identifying cause and effect relationships. Once painted, the stories can be used to test the robustness of proposed strategies and policies, to design alternative approaches, in effect informing the organisation of tools that will result in effective planning.

Scenarios are created in a process of collaboration with a range of stakeholders, engaging diverse stakeholders to articulate – and create – the future, inspiring these people around an organisation's vision and purpose.

The creators of the scenarios assume ownership and put them to work, taking up on the vision, the instruments to achieve this vision, and participating in an ongoing Strategic Conversation that supports effective growth and change. Tangible outcomes will include improved thinking for quantitative and qualitative modelling, the development of economic and non-economic performance indicators and establishing an origin for policy change.

Scenario Planning is as much art as science and thus Pierre Wack famous article is entitled 'The gentle art of reperceiving' and Peter Schwartz's landmark book is called 'The Art of the Long View'. Successful use of the future is achieved by working with scenarios. It involves vision and preparedness. It increases our awareness of the external environment and how it will impact on our business.

The scenario process does not involve prediction. Scenario planners are not futurists who are bursting to tell us what will happen. What we do is to map alternative futures of what might happen and then use these futures to help us come back and reperceive the present.

Businesses and organisations undertaking scenario work are often amazed to see how their plans are linked to only one alternative future. And how very risky it is to invest time and money on the so-called 'official' future when there are a few others waiting in store. This is possible most relevant when planning for public infrastructure to support the changing needs and circumstances of whole communities and cities.

This blindness to alternative futures can be very harmful if not terminal. What happened in Australia, the US and UK to Ansett Airlines, HIH, Pan Pharmaceuticals, AMP, Lend Lease and Arthur Andersen was not just a matter of management incompetence or even individual criminality – it reflected the crippling affect of businesses who do not embrace the uncertainty of the future in their present behaviour.

#### <u>1.1 Scenarios – some common questions</u>

#### WHAT ARE THEY?

Scenarios created by scenario planners present alternative futures. They spring from the external environment in which our business or organisation is and will be operating rather than from an internal view of what might happen. Their design or 'logic' is based on what we might call the axes of uncertainty (which I have dubbed 'Impaxes') which are shaping the external operating environment.

These axes or 'driving forces' are seen to have a greater influence on the relevant futures for our business or organisation because of their uncertainty and impact. The relevance of our strategic and business plans will depend on how they behave. To help us organise our thoughts and to stimulate thinking we can use various tools to broaden our perceptions of the current and future. The INSPECT model is one approach that was used for this project to identify what is happening in the world against an individual's perceptions of the natural, social, political, economic, cultural and technological environments.





Scenarios are also pictures of the future and are often constructed as word pictures capturing the many dimensions of an environment and describing the linkages and intersections of the Impaxes, driving forces, changes and trends.

Scenario narratives are usually presented as histories from the future looking back to the present. They are often supported by audio-visual ephemera such as videos, cartoons and posters, and by written cameos of specific events or people which convey what it is like to be living inside a scenario world.

#### WHY USE SCENARIOS AS A PLANNING TOOL?

Scenarios have their greatest value in providing a framework within which we can evaluate complex strategic issues about which we feel uncertain.

We are trained to be 'decisive' in the way we approach business problems and yet we often reject uncertainty by relying on the past as a guide. The future, however, is not at the end of a trend-line. Scenarios embrace uncertainty. And in so doing, they promote a practical contribution from open-minded and rich discussions and from diverse multi skilled inputs.

Scenarios are uniquely valuable in setting the context for strategic planning and decision making.

As our business and organisational futures seem so difficult to predict, we can employ Scenario Planning and scenario thinking to make as much sense as we can of the forces for change, the trends and critical uncertainties ahead, and of the responses of competitors, customers, the environment and policy makers.

Scenarios are a wonderful mapping tool. When we have created scenarios, we will see much more clearly how to plan our future and often our understanding will feel simple and obvious. But do not be fooled! We cannot reach a meaningful destination without struggling with the incredible 'messiness' of pre-scenario reality. There are no short cuts in the scenario process.

While we are adamant that we do not predict the future, scenario planners do attempt to build significant knowledge about the future within an organisation or related to topic. This may take the form of monitoring and scanning the external environment, of building intellectual tools around remarkable people, books and articles or day to day research into trends and uncertainties. It will also involve collaborative learning with colleagues, partners and even competitors and the liberation within the organisation of a capacity to discuss key issues, as suggested by Kees van der Heijden, in the form of a continuous 'strategic' conversation.

Indeed, a scenario process which does not lead to a dynamic, on-going, heightened awareness of alternative futures to the organisation will have failed in one of its major objectives: to improve the quality of thinking in the business.

WHAT IS THE VALUE TO AN ORGANISATION OF SCENARIO PLANNING?

Yes it is simple! It is to improve the quality of thinking so that the organisation develops better strategy.

Good Scenario Planning processes are designed to achieve heightened awareness of the future, and to increase the ability of the organisation to see how its reason for being or 'business idea' is aligned to the logic of these up-coming futures. They also help to sweep away old perceptions which are irrelevant and yet often very 'sticky'.

They are also designed to build the strategic competence of teams throughout the business and to build a shared understanding of the challenges facing the organisation in the future.

They will help to identify new competencies which will be required in the future and to reveal how sustainable is the existing competitive advantage of the business.

#### HOW LONG DOES IT TAKE AND HOW LONG WILL THEY LAST?

A fully-fledged process will take a minimum of three months and we like to have up to six months to do it really well. Some projects I have been involved with have taken over 12 months. And of

course, once the initial process has been completed we are ready to implement continuous review and revision.

A good set of scenarios, providing the outlook is at least 10 years, will be valid for 2 or 3 years providing they are revised periodically. Thereafter, it is wise to think of preparing a 'new edition' from a zero base.

Oliver Freeman

## Where did we come from?

### Event time line from the past to the present

What happened in the past to create the changes which define the present context for urban water management in NSW?

**1900** Public health issues leading to centralised bulk and waste water systems

**1960** High rainfall and subsequent flooding of urban areas leading to property and infrastructure losses. Storm water management focuses on flood control and safe conveyance of flows to receiving water bodies.

**1980s** Sewerage impacting on public recreation at Sydney's beaches. Public rallying and pressures results in construction of the deepwater ocean outfalls

**1990s** Urban storm water seen as a priority issue affecting the quality and aesthetics of local waterways, Sydney Harbour and beaches. Government introduces plans and programs to improve storm water quality

**2000** Water sensitive urban design emerges as the next phase in urban water management integrating storm water quality, flood control, potable supply and waste water into the design and construction of residential, commercial and public infrastructure projects

**2004** Drought resulting in water restrictions and introduction of mandatory water conservation targets set by the NSW Government for new residential development

**2005** Continuation of drought and much community and government discussion on the management of both supply and demand of water

## Where are we heading?

This figure represents the mapping we did to identify the critical uncertainties which we believe will impact on future of urban water management to the year 2030.



We then selected the most important key influences or critical uncertainties shaping the future of urban water management in NSW

#### 1 Governance

The changing world (dis)order Privatisation of water industry - supply, transportation, treatment, disposal and reuse and Governance – whether it is top down or bottom up.

#### 2 Environment

Sustainability of renewable natural capital and depletion of finite natural capital Climate change – no rain and storms – uncertain in terms of time and scale and its effects Potential environmental disaster, and Our appreciation of the environment

#### **3 People and Health**

Public health – in relation to disease and health Water related pandemic, the uncertainty is especially from viruses and the ability to overcome evolving viruses, and Socio-economic value of water – "wellness" market/mentality.

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## **Scenario Drivers**

We selected two of the critical uncertainties to be our scenario world drivers: driver number one was the degree of appreciation for the natural environment and driver number two the degree of centralisation of governance of water resources.

Plotting these two drivers created four scenario quadrants of the Ancient Mariner world.



Our next step was to enrich these alternative futures by building a matrix which embraces all the key influences which seem to impact on the future for urban water management. After all, we do not live in a two-coordinate world. Nor are the drivers chosen open to simple definitions.

We, thus, begin to see the inherent complexity of the systems which lead to change and can see that systemic intervention, in the form of legislation, education, cultural change and so on makes changes in these systems and not in isolation.

Critical uncertainties	ShrekCorn	Greenacres	Damn Creek	Dominature
	Сс	Vornanco	Danni Oreck	Dominature
	GC		Decentraliced	Controlined
Governance (Overview)		Decentralised	Decentralised	
	TOP Down	Bottom Up	Bottom Up	Top Down
	01		Vveak Federal	
Action Focus	Strong	Local Govt &	Govt &	Governments
	State Govt	Individual	Regional	run as
		L ( .  . ' ')	L ( -  - ' !')	DUSINESSES
Changing world (dis)	Globally	Instability	Instability	Ordered by big
order	ordered,	vvater vvars	Frequent	business which
	Little conflict		conflict	replaces the
				country focus of
	Oneradia	lucion:ficent		eg the UN
Terrorism	Sporadic	Insignificant	LOW DUT	High
		Due de seine su fi	brewing	Duivestie est
Drivetie etien efecter	Global/corporate	Predominanti	Drivetiesd	Privatised
Privatisation of water	nybrid	y local	Privatised	Big business
	Ote e du catete	government	lineranad	Llink
Economic activity	Steady-state	Lower	Increased	High
	Cmaller then the	Cooperativo	Ctropg	
Corporato rala	Smaller man the		Strong Implicit in	Strong
Corporate role	Corporations are	a a a a a a a a a a a a a a a a a a a	niplicit in	All poworful
		Draliforation	the public good	
	socially	of amolt load	the public good	vino cares,
				SINS
	good	players		
	guuu			
	En	vironmont		
	LII ShrokCorp	Crooppore	Domp Crook	Dominatura
		Greenadres	Danin Cleek	Dominature
Environmental	High	High	LOW	LOW
	Mandata gayt ta	Distributed	Distributed	Ducinece io
value Focus	implement	Distributed		Business is
	implement	environmental		business and
	community		enough to run	
	values	community	line	
				problems
Motor	Diantiful	Scarce	Reuse and pay	
vvaler		Manageo	freepiy ioi	Supply always
	Fign grade		iresn water	a ballie
Sustainability of natural	Global action	Local action	Dramatic	Who cares?
capital	creates	creates		
	sustainahility	sustainahility	103303	
Non-renewable resource	Renewahlee	Greatly	Increased	Exhausted
	only	reduced	mereaseu	
Climate change	Canned	Impercentible	Bad	Bad
Unitial Unallyc	Capped	mperceptible	Dau	Dau

Critical uncertainties	ShrekCorp	Greenacres	Damn Creek	Dominature
	Peop	ble & Health		
Critical uncertainties	ShrekCorp	Greenacres	Damn Creek	Dominature
Public health	Outstanding	Barefoot Doctors	Poor	Federal control
Water related pandemic	Yes, Ice Flu	No	Yes	No
Disease	Yes	No	Yes, pandemics	No
Socio-eco value of water	High	High	Low	Low
	Othe	er parameters		
Science & Technology	Preference for big, simple, safe & proven	Diverse but natural	Moribund as poor R & D	Big brother High performer well funded
Society	United Our city Urban heroes	Community oriented Our village Local heroes	Very Divided Fearful, gated communities Us and them	Self centred My city
Agriculture	Transformed Indigenous & eco appropriate	Mixed scale 'Combine' farms	Move from fresh to preservable	Decline
		Wildcards		
	Iceberg Flu Pandemic	Warragamba Dam bursts Cholera	Greenhouse	Algal Quaeda Sea walls around Sydney beaches

### Shrek Corp A History of the Future



Water is the barometer of life, and the entire show now flows from one tap: the planet's tap. The ecologists' single interconnected world view ('So above') is replicated ('So below') in one global resource management system controlling each region's earth, air, fire and water. The needs of nations, regions and persons must be subservient to the planet's environmental needs. The rule is clear: If you harm a droplet of water, you will cry buckets.

As far back as 2012, climate change was clearly accelerating. Man-made environmental disasters were the airliner crashes of the 1970s, the AIDS scare of the 80s, the terrorist scares of the 2010s. It was clear as mud, the world's environment was

STORM INDEX How it works

going down the sewer.

SHREK CORP Birth of a Giant The new NSW government was as green as any but they sold themselves out of the water crisis in one dramatic sale in 2009. Sydney Water and all NSW's water providers and all who worked for them were sold to the highest bidders. There were half a dozen bidders. One of them a community-based utility called Shrek Corp. Shrek were at the green end of the spectrum: they supplied water but they were also in the business of advising households on retro-fitting and wise use. They advised streets, suburbs, communities, and business. They showed people how to act

together to maximise savings. At the core of their philosophy was the idea that we are all on one planet and that there is a central organising principle in nature. Back in 2010, who would have picked this little green business as a giant?

Once the water resource was sold, the price of water just went up and up... and up. You bought water by the litre not kilolitre. That transformed everyone's thinking. Once it

had a price, water trading commenced and water floated on the stock market. Water

SELL YOUR WASTE WATER became the oil of the 70s. The cost drove more and more efficient water use, as well as migration to water-rich areas. By 2015, every house had a water tank and high-tech water-saving devices, under most streets were large storage tanks owned by Shrek that stored water to sell to local government and residents.

Shrek's business did well with its green message. Some water suppliers had ignored conservation; they'd built desalination plants and bigger taps. Shrek were the first to offer to effectively buy-back waste-water from their customers – the market for recycled wastewater became the accepted reality. Shrek bought out Sunset Water in the west. They bought south. They bought up big. They shared *and traded* NSW's water and finally, through profiting on water futures trading and a share float supported by major financial agglomerates, they bought

Highwater FOOD LABELLING the old public Sydney Water from Pacific Corp and acquired the remaining regional water businesses along the water rich east coast from Sandhope Ltd. Finally, by 2021 there was just one provider for the State, Shrek Corp.

The climate got worse, rain fell less often storms when they did occur were more severe than ever. The price of water went up and up, and

WATER CHARGES BY THE LITRE

BUSH SHRINKS

> WATER THEFT CRISIS

up again and the quality went down. Gen Y was not fazed. They grew to love synthetic sonic~wash suits, they loved low-loss microwave food, and they

ICEBERG WATER PLAN didn't miss water-fed fresh fruit at all. The melanoma scares and the heat of 2018 chased them off the beaches and out of the swimming pools back to their PS9 stations and VR headsets. Water restrictions led to control of what plants could be grown, slowly changing the landscape of Sydney, and NSW.

LAWN TAX

As the temperature rose and the Dam stocks fell the pressure increased, people began to complain that they'd done everything they could: retro-fitted, tanked-up, showered with a friend— but it still wasn't enough. The 'shock-jockcracy' moaned: How can it be the individual's fault: we love the environment; the government has got to be in charge. A century of rampant individuality that ignored the environment cured everyone of a belief in the benefits of decentralised decision-making. The safety of the herd depended entirely on the decision of the leader who made decisions for all.

Urban demand stabilised but total water demand went up and up. It was unsustainable without a nuclear reactor to power the desalination—and the political reaction to a nuclear reactor in Sydney hadn't changed. The real catalyst for change was the 2020 pandemic, everevolving viruses killed hundreds of people—and frightened millions. And the worst was yet to come. The iceberg virus.

#### THE ICEMAN COMETH

By 2015, at \$80 a barrel for premium water, water was so valuable it became economic to start shipping icebergs to New York and beyond where they could be melted down and sold. Global warming broke off larger and larger bergs, climate change had so shifted the southern polar currant, the bergs were closer, strong winds assisted the new fleets of wind-assisted tankers. And tourists took the ride, toboggan runs and skiing on the icebergs each day and ice-cave tours

through tunnels bored by the water-miners. It was a summer holiday away from 48 degree Decembers, it was a white Christmas. It was therapy to breath the air inside icebergs.

But in 2020, the unthinkable happened, and within two years every single New Yorker knew off by heart the five stages of ice flu. The icebergs contained ancient organicisms unknown anywhere else on earth. And as they drank the water, they accumulated *Gondwanasemia*. It was slow-acting but death was certain, incurable and gruesome. It sent people mad; many took their own lives. It seemed that teenagers were unusually susceptible. By 2024, a hundred thousand children were dead or slowly dying, it was America's worst epidemic, it scarred Western societies for two generations.

ICE FLU KILLS 2000

Medicine took two years to restabilise but the effects lasted for generations. Medicine had failed.

Utterly failed to recognise and predict the impact of the ice flu. Water, everyone realised, was just too precious and too vital for life to be left to manthe-gatherer, or man-the-profiteer. The mounting cumulative effects of climate change began to bring down small governments and threatened to destroy any nation downstream of the world's prime water sources. The earth had reached its limits, nationalism had reached its limits. The situation was as clear now as ice. We needed global governance.



There would be no more iceberg parties. The crisis called for a complete re-think of who owned the water, the air, the earth. The children of the Gen Ys (who survived) were more globally connected than ever before, saw themselves as one race: the human race, and they

were the greenest generation the earth had ever seen. Dubbed the 'GenTels', they wanted their lives in the hands of careholders, not shareholders. They demanded the water table test: if an action degrades water, it is either disallowed or instantly halted. To the Gentels, water, real water (the stuff that falls out of the sky and burbles down creeks into lakes), which they had only seen on their parents plasma TVs, was sacred, a stuff of life, a barometer not just of environmental purity but of life itself. Religions old and new tapped into it. The Fountain in Islam, the Flood in Christianity, the lotus pond for Buddhists. They all used it.

It took twelve years. The people of the planet with a voice agreed that the solutions would have to be centrally planned and administered. The global agenda became the global direction. The Direction begat the Plan *Replenish* and the Plan begat the Treaty. And after seven years in court (and, in the case of the thirty-four recalcitrant (mainly) southern nations, five weary more years of QUELL: economic and political sanctions followed by UN Sovereignty Coalition management

taskforce incursions) It came to pass that the Replenish Treaty was, as they said, 'effected' worldwide.

BUY-IN

State governments became almost irrelevant, no more than local implementers. *Replenish* applied ecological principles to every facet, and that included people management. Ecological selection of the fittest was applied even to government. The real drivers were the policy makers in New Delhi who managed the Replenish Treaty and the

regional organisations who carried out the regional Replenish procedures. The allocation, supply and management of water—and everything that went with it was under the management of the one body that could handle it: the United Nations and in Shrek's case, the public monopoly that had become a private monopoly now become one of the new corpratised international aid agencies.

The Replenish Treaty transformed agriculture, industry too. Everything! Thirsty crops perished. Low-water crops and ultra-efficient watering systems replaced high-water intensive irrigation. Cotton was moth-balled. In Australia, feed-lots were replaced by free-range drought tolerant herds of kangaroos.

NI PLANTS

And Australia's water management was entrusted to the one organisation that would have nothing to do with icebergs. Shrek Corp. Shrek's centralised water security technology (like Chubb's home security network) continually monitored water all the way to the house, with water metres that included the aquatic equivalent of an electrician's millisecond circuit breaker. Shrek had the world patent on it. Every one wanted that too. The beauty of it was its simplicity.



The Replenish Plan also demanded blue water from green energy. Water is energy and cannot be provided outside an energy equation: another example of the ecological thinking that now dominated water-management. Shrek Corp was soon at the forefront again – with renewable energy. Shrek expanded into energy production with Enerduct, Earthore and Airsol: it was a total environmental management package. Fancy words but the technology was anything but fancy. It was tried and true, tested and re-tested. Simple.

Repeatable. Dependable.

By 2030 the health scares of the previous decades were memories. Public Health had never been better. Almost every major disease with an environmental cause was in decline. The world revelled in the abundance of NSW water. Tourists manyalled at the vast expanses of fresh water. NSW was

NSW water. Tourists marvelled at the vast expanses of fresh water. NSW was a new Rome, filled with fountains.

PLAN

The trade-off for Shrek was control. They had more power, but they did not control policy. Like all big picture, centralist plans, translating policy into action was never smooth, and sometimes produced unintended results. Lines drawn on maps in Delhi and New York rarely converged on the ground in New South Wales. Local economies operating considerably beyond replenish levels were penalised, sometimes with disastrous effects on settlement and employment. Centuries-old traditions disappeared. Like all empires, sparodic rebellion required quelling. The pace of change required was great. Big bodies move slowly but when they move the small were frequently forgotten as they were trodden underfoot by bodies that reckoned even Shrek a pygmy. And because global goals had to be low, so that they could be universally reached, they were often watered down. Changing the weather, slowing climate change, *effecting* the significant global slowdown was proving even in 2030, to be a very slow process.

#### ShrekCorp Timeline to the Future

#### Five Years Beginning ...

2005	Election and change to privatisation
	Sale of water resources is on
2010	Community based ShrekCorp
	consolidates purchase of every water
	utility in Australia
	More severe climate change –
	consequences
2015	Iceberg imports – readily available due to
	change in climate
	Water prices increase – 80\$/kL drinking
	water
	Homes largely water self sufficient.
2020	Pandemic – Increased health issues –ice
	ʻflu
	No more icebergs – desalination
	Focus on green energy + purchase of
	energy utilities
	Opportunity to rationalise shareholdings
	ShrekCorp now run by autocratic +
	dynastic board of 'careholders'
2025	ShrekCorp is sustainable
	Energy corporation selling clean 'green'
	water
	Expand energy holdings to control market
	Directing govt about policy with
	environment focus
2030	Start to pay off govt debt
	Increase influence over policy of govt
	Board of 'careholders'.

#### Cameo of the future in Shrek Corp

Date December 7, 2030 Name Damian Hall Age 24 Occupation and Location Tour Guide, Shrek Tower, Sydney

Damian has been a Shrek Tour operator for three years. He's seen tour numbers double and then treble. Over three million people come from all around the world to take the famous NSW 'Waters of Life' tour, and to see Shrek Corp at work.

Today's sightseers gathered in the foyer of the Shrek Corp Tower. The sound of water is amplified from the vast basin below the building and mirrors funnel sunlight across its surface and then project waves onto the lobby walls. The entire building appears iceberg-blue, and resting on a rippling stream, with its columns bubbling like water geysers. It is, apparently, the most flamboyant use of water in any building in the world. Even if every one knows— it's all done with mirrors. The day is hot, another 44er, but the Coolgardie water conditioner produces a constant natural breeze.

Damian sniffs today's vapor. Northern Rainforest, one of his favorite additives.

He quietly moves to a small platform, presses a button, and a fine fog of droplets spreads around him, making him appear to be walking across a cloud. As the eyes turn, he begins his hourly spiel:

"Water lovers! My name is Damian. Welcome to the famous Shrek Water Tour. Today you will discover the results of our thirty years work. You are going to see, smell, feel and touch more water than you could dream of. We will start our tour at Fountainside, Sydney's parade of fountains, fed by the Sydney Canal. At the Shrine of Remembrance, you will hear the famous laughing waters of the eternal fountain. As we drive past Centennial Park, you will see the paperbark swamp forest rapidly over-taking the dead trunks of the European trees. Here you will take a glass-bottom boat tour through the lily ponds. And, yes—you will be getting close-up and personal with the Shrek Geyser — all eighty giga-litres of water. For the kids, young and old, there's also Shrek's Water bubble descent. Experience an extraordinary plunge through two hundred meters of air bubbles. Feel the power of surface tension! We will then take you by water taxi below the water-table to one of Shrek's new water monitoring plants. Using Archimedean power and water crystals themselves, you will see how Sydney's water is made the purest in the world. At the Shrek Interpretation Centre on the other side we will show you a typical Sydney Waterhome. You will sample, when we stop at the Waterside Café on Sydney Green, the eighteen pure and distinct waters of NSW and we'll leave you on the largest expanse of moss in Australia. Luxuriate on this soft and lush native Australian lawn. Bon Voyage! And, as we say in Shrek, Cheers, every one!"

#### Greenacres THE SCENARIO STORY



Warragamba was (note *was*) one of the largest concrete dams in Australia, and one of the largest dams in the world to be used specifically as a metropolitan water supply. Created by damming the Burragorang Valley its lake was four times the size of Sydney Harbour. When news spread around the world that on 28 August 2010 terrifying storms had burst the dam wall, the fears that everyone in Sydney had been harbouring for the previous two decades were realised.

If you don't invest in key social infrastructure such as water, electricity, health then you are fuelling an accident waiting to happen. If you pay peanuts you get monkeys and other clichés.

The water infrastructure, however, needed more than a monkey-wrench to put it right.

State politicians, led by Labor Premier, Maurice lemma, ran for cover while community activists mounted the proverbial barricades to say "I told you so...'

The plans to supplement the Warragamba water supplies with a huge desalination plant off the coast at Kurnell never got off the ground following Bob Carr's resignation in 2005. Citizens of NSW were unimpressed by successive governments' failure to provide financial incentives to save tap water and recycle storm water. It was as if no one could make the philosophical shift which would value water as a social asset rather than something you literally poured down the drain.

The dam-burst turned out to be the wake-up call. The physical damage and loss of life in the towns and suburbs along the Hawkesbury and Nepean Rivers was devastating, but long after the waters had subsided, the community's anger was still rising. Cynicism about government turned into a downright loss of confidence in centralised anything. This lack of faith paralleled the midnight gazettal of the *Water Wise Act 2010*. Rushed through parliament on 1 September, it introduced draconian water restrictions to households and industry while the rebuilding of the Dam and other public infrastructure took place. But the various agencies were painfully unable to recover, or resource, the rebuilding of communities following the disaster. You only had to look at the plethora of agencies responsible to see that 'The System' was incapable of effective action.

You could add to that the cost and intricacies of getting government approval for environmentally related projects. It was well nigh impossible for local action to be entertained. Like pushing cherry stones uphill with your nose, some said.

So the community turned to those they knew best: themselves. They demanded a place for a community representative on every major government decision-making body. Local government, sniffing the breeze, increasingly challenged state government decisions, and with community activists wielding slingshots, ambling state goliaths came crashing back to earth. By 2011, even though millions had been spent on the approvals, and actual construction commenced, rebuilding one vast central water storage 'Warragamble' was just no longer acceptable and that wall too overturned. Local councils formed cooperatives to take care of their own water supply and slowly these cooperatives diversified as more and more water-rich people went 'off-pipe', entirely responsible for their own water supply. Local government ownership maintained itself in most areas, both water-rich rich and water-poor because (as will become apparent) the new political paradigm favoured it by simultaneously greatly improving coordination and removing an entire layer of inter-organisational barriers.

As well as resource-management issues— soon health, education, energy, transport, were all challenged by local governments. At local council and then at state government level, in election after election, independents and shifting coalitions of independents garnered more and more votes, grew in strength until the first coalition government in 80 years was formed in 2010 — and from then on coalition of independents and minor parties became the norm.

By mid-2012, with the lowering of the voter age and the growing popularity of citizenbased referenda, independents held over half the seats in local and state government and citizens filled a mandated 50% of all bureaucratic decision-making bodies. The demand for an even more radical re-distribution of power produced a community summit. On October 9, 2013, the Telstra Stadium resounded with the voices from two hundred and sixty thousand mouths, the biggest 'open space' meeting ever seen, and another million minds contributed online. The outcomes were massive. Living National Treasure, Noel Pearson was on the button when he described what was happening in NSW as 'creative chaos'; decades of lacklustre 'realpolitik' were exposed and then swept aside in direct affirmation of the supremacy of community over centralist bureaucracy.

The French view that we are born free but are everywhere in chains was busted as the citizens of NSW began to think locally and act locally and the emasculation of state government continued on almost every front. As expected, many went to the scrapheap, but most found new work in new jobs.

The renaming of the Sydney Metropolitan region as Greenacres was endorsed at the first meeting of the Community Convention in Berry in February 2013. Sydney remained but only as the old '2000' district; everywhere else either kept their local name or renamed them. So Dapto became Arcadia; Glebe became Glee; Mosman became Mossy and so on. The rezoning of the old State into Community Shires, based on bioregional boundaries, began. Each shire focused on developing a unique hub with a business cluster built around it which reflected a special interest of its citizens. Hub clustering was a million miles away from the opportunistic development schemes which had driven NSW into the ground over the previous 50 years. Gone were the strip developments of mediocre retail and light industry, replaced by business communities with direct links to the residential society, smart green technology and the opportunity to network on a broader scale.

The old *Water Wise Act* was repealed. (Replaced by the *Wise Water Pact* 2019 and recognised the neighborhood based water supply and recycling plants that had sprung up, circumventing the archaic and overly centralized health and planning laws). But the biggest difference was in its political genesis and path. Though assented to by the State Parliament, this was no more than a royal assent. The real work had been done in the *real* houses, at household councils, and then in the new Parliament of Communities where school kids, the disabled and mothers working full time on their family roles, were

all represented.

This transition had been possible for two reasons. First, the wasteland created by the dam burst had shown that you can 'start again' and you can reject the concept of gradualism as the only way to create change. And secondly, the rise of the community activists had reversed the politics of involvement from 'top down' to 'bottom up'.

What was happening in NSW was mirrored elsewhere. In the US, following the deep recession of 2007-9 (itself caused by crazy individualism and the stock market crash), the resurgence of democratic pluralism dislodged the Republicans in 2008 and Bruce Springsteen was elected President on behalf of the New Democrats. Economic global uncertainty bit hard into the progress of globalization, and worldwide we witnessed the transnational corporation pushback when US companies like IBM, Dow, GE and Monsanto sold their overseas companies to local interests. Not surprisingly, terrorism threats against these companies quickly halved.

Weather-wise, there was another local victory, climate change proved inexplicably patchy. While Africa baked, Siberia bloomed, and NSW was, in a nutshell, Greenacres. Out in the fields, small scale, high-value crops and Permaculture got the tax breaks and other support but made little economic in-roads against the large, and smartly diversified combine farms that shared capital equipment and thought big. Ask them about climate change — just another word for more fires and floods, they'd reply.

By 2018, under the leadership of the Parliament of Communities, the great winner in Greenacres was diversity. Diversity in everything. The burgeoning coastal communities were experimental in their approaches to the provision of life's basic needs. Distributed generation for driving energy and transport needs were supplemented by small projects creating a sustainable future for water. People had always been game to save resources and dismantling the bureaucracies enabled it to actually happen. It was a great irony that the system developed to run a top-down approach to infrastructure provision was inimical to achieving the goal for which it had been built.

The value-shift reduced social tensions. Adversarial law was supplanted by dispute resolution through mediation using community elders for arbitration. Money was no longer the only measure of wealth. The idea of 'well-being' became 'wealth-being'. Prosperity was defined by family, friends, health, happiness, social comfort and fulfillment at work. One of the most radical citizen-driven referenda initiatives saw personal taxation increased to 100% after \$100 000. No citizen was able to be more than ten times richer than any other. By the old scale, the economy was down, but no one measured the economy the old way.

The emphasis on humanism, community and the local was effective in limiting the spread of disease because people were more vigilant and more responsible. Social health begat broad public health. With notable exceptions.

Not that Greenacres was an idyll. Remember Pearson's words: a society in 'creative chaos'. This manifested itself in some extremely negative attitudes to anyone left behind when it came to endorsing community values. So the kids with ADD; people with autism and bipolar disorder; real loners like artists, other introverts and the intellectually impaired—they all had a tough time fitting in. As did people who eschewed responsibility in their community, and preferred instead to lie on a beach and watch the clouds drift by. The tension between the physical connectedness of local communities and the

disconnected nature of virtual networks also played a large part in building a sense of chaos. The closure of the State Opera Company was a cultural crime to some, the state's art collection and books always seemed on loan to somewhere else, and the disbandment and distribution of one member of the SSO to every regional orchestra, with only one symphony concert a year, set the tone for the social and cultural flipside of diversity: mediocrity. High culture was not the only victim. The standard of rugby in Glee's Local League Grand Final was not as high as in the NRL's days of yore, even if you could sit a lot closer to the sin bin. More seriously, health and educational facilities were universally better but never outstanding. High-end/high cost equipment was not available.

Although our water shortage problems had largely been resolved by 2026 through recycling, reduced consumption and low-tech technology, how slow and tedious was any inter-regional agreement! When your backyard is the whole world—if not the Universe— 'Not In My Backyard' (NIMBY) takes on a whole new meaning. Squabbles over who paid how much to maintain the undividable social assets like highways and emergency services dragged on and on, the consultation process had more potholes than the first Efway into Berry. Technology was welcomed as an enabler, but far less powerful than a holistic, sustainable approach to living.

The warning of different problems to come emerged in early 2025 when recycled water — presumably as a result of the speed at which it had to be routed and rerouted around the system — began to display signs of fatigue. Its molecular structure was mysteriously morphing into something new and strange. Scientists were deeply puzzled at this unexpected change. And they became disturbed in late 2025 with the first cholera outbreak recorded in over 100 years, killed 12 nuns at a nunnery in Orange.

But that is another story.

#### **Greenacres Timeline to the Future**

#### Five Years Beginning ...

2005	Business as usual, complacent, 'she'll be
	right' approach to the future
	World US led recession
	Global economic outlook falls
	Climate change less oppressive
2010	Alarming storms in NSW
	Warragamba Dam bursts
	Water Wise Act passed imposing severe
	restrictions on water usage.
	Independents increase power in State
	parliament
	Community Convention in Berry
	Rezoning of the State of NSW
2015	Regional Greenacres Parliament of
	Communities set up to replace the old State
	Government
	Wiser Water Act passed
2020	Recycled water fatigue leads to outbreak of
	cholera. Nuns die in Orange
	UN ascendancy as global situation
	becomes calm.
2025	Recycled water fatigue leads to outbreak of
	cholera. Nuns die in Orange
	5

#### Cameo of the future in Greenacres

#### Date March 2025 Name Mike Moby, Age 37 Occupation and Location Eco Designer, Greenacres

Mike Moby, greenarchist, was humming down Efway (Emission Freeway) 7, one of the new toll roads open only to people driving environmentally friendly cars and whose personal environmental audit rating (PEAR) was below 2.7. He was on his way to a Greenacres Community Action Group meeting in Berry, one of the 118 community hubs in the State which had replaced local councils in 2015 and whose stakeholder champions were on the NSW Executive Representative Council.

In a barrel on the backseat was his latest invention: Moby Water.

Mike, with his hybrid car, his hempen hats and his doomsday declarations had once been considered the village crank. Nicknamed 'Save-ya' for his never-ending crusades for threatened everythings, he had emerged as the latter-day local hero of Greenacres (formally known as Sydney) when in 2010 the Warragamba Dam burst. After all, he had warned the Government for years that this would happen.

People had wanted to make him Premier, but he preferred to work in the community helping his social group become self-sufficient and reorganise themselves around the environmentally sustainable decentralised model he had also championed for years. Of all his contributions, the one he liked best was his creation and adoption of PEAR which actually made environmental friendliness really sexy.

The first thing Mike did each morning was check his own score. It was really clever of the Electricity company (now called 'The Greenlight Electricity Energy Company, or just plain GEEC) to attach a sensor-meter to its energy hub, now sited inside people's homes. The meter aggregated net environmental use for the household and covered fossil fuels, water, gas, electricity, and bio-undegradable waste. The score was automatically calculated and averaged for each person in the household. The magic number was 2.7. On or below, it offered you a gateway to free or discounted services and reduced the final tax take on your superannuation. Mike's reading that morning was a spectacular 1.3. Another \$100 on my super, he estimated – and the use of the Efway for another day. His ten-year old car (dubbed 'Vanguard' by his partner, Helen) still did pretty well, except over the bumps, but he knew he would soon have to trade in the old banger for a hydrogen car – perhaps the Honda H or the Hyd-Range Rover. With SuperFluid suspension. Maybe Moby Water would pay for that, too.

Moby Water! In Berry, Mike would demonstrate this new product, his prototype water so much more efficient at absorption in hot dry climates. Moby Water might reduce evaporation losses by up to a whopping 80%. The secret ingredient was of course 'MM' and no doubt Mike (who had traveled to Mexico earlier in the year) will spill the beans on it one day. As he sped down the Efway, he pondered the cluster of innovations Moby Water needed to achieve to make a real difference. Recycling and increased efficiency got you so far down the track, it was changing basic water needs that had to be harnessed alongside.

As he crested the last hill before Berry, Mike, the fool on the hill who had became king of the mountain in the environmental hall of fame was humming his favourite old hippie hit hymn... *It's Time For Us.* Suddenly, another line of deepening cracks in the tar rattled and then shattered his Vanguard's front end.

Climbing from his ruined car Mike shook his fist at the Efway, 'Effing potholes!'

## Damn Creek



Damn Creek is a world where there are more serious issues than the environment. When you're struggling for a crust working eighteen hours a day, and it takes six hours to get out of the city, do you care what's out there in the storm-wrecked countryside? It's better inside. The system is up to you. Here is a disease-free, safer world, antiseptic but just as you wanted it.

Who could stop China and India from having what they wanted? The 90% wanted what the 10% had squandered for a century. Make that centuries. And in the 21<sup>st</sup> century, with their economic power came... economic purchase. They bought cars. They bought TVs. Highways. Broadband.

Plastic. Smog. Noise. Crapola.

They got greenhouse too. Higher temperatures and higher floods, more storms, more fires, more fire storms, and for the first time, storm fires. Nature shrivelled and shrank in most directions (but not all), many species tipped over into exponential extinction but others thrived. There was outrage, but economic power brought political clout and who could deny the new have's their day in the harsh new sunshine? Was it sustainable? Of course not. Did people protest? Yes. Did it stop? No. After all, they were still buying plenty of the high-end stuff from the West.

Fixing the environment, it turned out, was endless, ruinously expensive, and in the end, we realised, it was a kind of non-issue. Extinction of twenty thousand bugs in the Amazonian rainforest changed nothing. It was natural. The hallmark of humanity, of species, of life, is to adapt. That didn't stop government and individual groups making attempts. They did and they continued to succeed. There was still a GST (Greenhouse Sustainability Tax) on everything related to greenhouse. But as that turned out to be just about everything, the tax came to be seen for what it was, as just another government tax heist, another GST. Fullstop.

We adapted. Inside, things were calmer. Take a pill. Take two. Chill.

The drain on oil, and the greenhouse tax meant, by 2020, paying \$7 per litre for petrol was the norm. Public transport increased ten-fold, and became the way most of us got around, except for the smart upper-class rich who drove. But where is there to go? Travel was dangerous, so why bother? The countryside is so stuffed-over anyway. All built out. You didn't look outside, you didn't have to.

Either we lived with technological solutions that got around the problem or we lived without whatever it was that had disappeared, or we couldn't afford anymore. So, if you couldn't afford to buy 'highwater mark' clothes (like shirts with cotton in them), you could download hologram cotton from the web. Your apartment block didn't have showers, you bought a sonic shower and solvent shampoo. Hoses outlawed in your burb? Lay micro-matting. Your local golf links was housed over or the last neighbourhood cricket pitch was booked out for a year? Play the game they play in heaven at the flawless, uncrowded courses they built in cyberspace. The Internet offered a dazzling array of environments to inhabit. Virtual reality more real than any

sunset, cooler than any tropical swim. And it was all at the command of your voice. It was the new opium. If you were against that, it could only be because you didn't get the picture.

Like frogs in simmering water, people slowly got used to subtle degradations. Even the most basic building blocks of the natural life could be surrogated.

The one thing they can't email you was a glass of fresh water and a breath of fresh air. But is fresh water so vital? For everyone to have drinking water, something had to change. And the change was; first, drink your own water. Buy tanks. After that option was all used up, the idea of drinking other people's water wasn't so bad. In fact, a good dose of any one of the belly bugs home-tank water was always giving you would convince anyone: treated water (alright, call it what it was—recycled water) was safer. That was the obvious way around the shortage. Reuse. And just to democratise it, a ninth ingredient was added to the supply: tints. Yellow, Red, or Blue water.

Air? Air freshener was impregnated into everything and designer dust masks proved no more uncomfortable than neckties.

Light? In the worst-affected areas, artificial light easily mimicked daylight and vitamin D tablets did the rest.

Things like belly bug helped sway public opinion against nature. Nature wasn't on our side any more. The storms were killers. The viruses were killers. And anyway, the big news was not environment, it was politics.

It was revolution. It was chaos. Paris, London and New York — all bombed. The pyramids — gone. Babylon — gone. Jerusalem — gone. Terrorists hit cities around the world so hard and so often and in so many ways people figured, 'I'm getting the hell out of this mess.' It started in the first decade of the 21<sup>st</sup> century, within another decade the trickle out of the cities was a flood. Australia's population decentralised. The population stabilised in Sydney but the coastal population grew bigger, and spread out. There just wasn't room inside for everyone, even with the development of twin-time economics (brought on around 2018) with two shopping shifts in all shops and 24 hour trading to ease the crush.

Pandemics, the scourge of the big cities in the 2020s, were far less likely now in 2030, but the idea persisted and remained a key issue in far-spread communities. Disease pandemic meant we no longer wanted to live near each other. The fear of food contamination changed agricultural distribution. Fresh food was less popular. Preserved food, food in tins, and particularly food you could boil or zap (or ping) first was obviously safer—and more popular. Farmers, like everyone (except high class chefs) adapted. For some, the best food came from labs, not lambs.

The impact of terrorism convinced people that big, centralised organisation was unsafe. Crowded spaces were dangerous. Ideas were dangerous. People grew sick of ideologies, movements, big-pipe solutions... because, as a new generation of politicians called Back-lead leaders asserted: They Don't Work. Down home in Australia, that also translated into a strong movement of The Consumer Will Decide — and they will decide for *themselves*. We liked the choice, we like our individualism. Consumers demanded more and more choice. More personalised service for *me*. The individual contract led to the individual world and a plethora of brands, including water brands.

With the retreat from big systems, investment wasn't put into the infrastructure because nobody was driving it. The Water Boards were sold to private companies and everyone went on a private utility contract. The more you pay, the more you can have put into your water to make it better. Basically, any one who could afford it disconnected from Sydney Water. Sydney Water went out of business—just like the health funds. As a result taxes are up. No wonder everyone was working 12 hour shifts.

The power that drained out of central governments trickled down. Local council became super councils. They acted locally. They quietly solved their own water supply problems because people were over their hang-ups about desalination and reuse. The costs disadvantages of smaller-scale plants were balanced against their safety advantages. With a few more dams and local home storage, together with a dramatically reduced requirement for water quality, supply problems eased and with it the constant campaign over demand management eased. New technology found more profitable markets to explore.

Like African societies that throw up the fence around the village during the times disease stalks the land, communities fragmented and looked out for themselves. At home, we live in gated communities—of vastly different standards. In some, they all showered in the same water. In others, they paid for the purest and let it all drip down their drains into their wetlands. Having pure water was like art; some like it, and would die for it—but not many—most of us can get by with the facsimiles. There is clever tech that can allow you to have a very high standard but if you didn't pay, if you're not in the right place, you won't get it. Like Private Health. Some went low, independent tech, with independent, self-sufficient communities that grew further and further apart.

To the have and have-not's it was Damn (do you mean Dam?) Creek, but there was an upside. It worked. People felt more secure when their safety was in their own hands. Terrorism attacks, so prevalent up until 2012, decreased as targets spread, and attacks became less severe when networks were no longer intimately connected. Pandemics ceased because they couldn't spread.

At the local level, individual creativity was encouraged and the digital arts flourished. Necessarily less physical, society was more cerebral. Communities may have been separated in space but they learnt from each other. Theatre, novels, reading, chess, philosophy: they all flourished. An abstract aesthetic permeated society. The small Japanese-style of courtyard garden with stones, rather than plants, was popular. There are lots of stones, they are enduring and no two are the same. The built world was glorified and attention once lavished on preserving trees went into beautifying and preserving towers.

**Footnote**: No one talked about them, but every one knew they were out there. The Snots—or Greenlanders. A core of outraged resistors, embittered and armed, and when they weren't rescuing wildlife, they were pretty wild about where they saw life heading: Up Shit Creek.

#### Damn Creek - Timeline to the Future

#### Five years Beginning …

2005	China grows and grows – the rise of the
	BRICs is consolidated
2010	Terrorism grows
	World's first storm-fire destroys Osaka
	Eifel Tower falls
	Jerusalem destroyed by dirty bomb
2015	Oil \$7 a litre at the pumps (inc. \$2.00
	Greenhouse Sustainability Tax GST)
	Trams for Sydney
	20% of NSW water recycled by Privatised
	Water Boards
	Twin-time 24 hour shopping
	Sydney population peaks
	Gated communities house 15% of
	population
2020	Growth of Super Councils
	Sydney Water broken up and sold
	60% NSW water recycled: tints added
	Urban water pandemics across west and
	Eastern capitals lead to flight from cities
	Gated population up to 30%
2025	84% NSW water recycled
	Half population lives in gate communities
	NSW covered by 18 'Super Councils'
2030	90% NSW water recycled
	Greenhouse tax re-configured & collected
	by Super Councils

#### Cameo of the future in Damn Creek

March 2028 **Names** Kylie, Ken and Timmie Post **Ages** 26, 31 and 4 **Occupations** Mother, Security Op, child, **Location** The airlock of the family hopod (home pod)

For Kylie and Ken Post, it was not *like* a dream come true, it was a dream come true. Only just beyond the newly-wed stage, like most young couples, they were living in a small homepod, while saving up for a room with bluelight, and maybe even a view of the community tree. But that modest aspiration was blown out of the water now. Evaporated by the surprise of Ken's new job. He'd somehow won a job in Security at Kuringal Park. Everyone, even Kylie, had heard of Kuringal, but what actually went on in there was not well known to the likes of Kylie and Ken. They'd never get past security.

Now Ken had her sat down in front of his new Holo-screen— another perk of his new job showing her what they were in for, in 3-D. And Kylie was actually taken aback. She'd grown up in Trendwire, a nondescript community with no gates. Their child, Timmie, was more perplexed than anything. Ken was trying to explain it:

This will be your room, Timie Cool! said Timie, It's square. Yes, No hex walls anywhere in our new home. We'll have room! What's that on the floor? That's wood, son. It's red, Dad. Reddish. You'll get used to it. It came out of Nightcap Rainforest, Kylie. You won't find that anywhere, that's for sure. But look at the floor, what *don't* you see? They all looked. Water alarms! It's got no water alarm. Ken beamed. We'll be on single-use real water.

Show me the Dome, Timie said. Okay. Fumbling with the screenpad, the view zoomed out and then in again. Wow! Huge! ... What's that stuff? Grass. Wait till you roll on it. No, the moving thing. Is that the pool? No, that's just a fountain, Tim. What does it do? Well... nothing. It just looks pretty. Kylie was just staring. It was breath taking. Ken went on. It's a 900 metre dome, the largest in NSW and it's not just a dome, its an activebuffered weather guard. It's blue-lit. You'll never hear the Howl again. There's 84 trees in there somewhere. In winter, they say, it actually gets fogs. Beautiful. The view started to rotate. Is that the pool! Yep, *that*'s the pool. Can vou swim. dad? Yer... I think so.

Go back to the house, Ken, Kylie asked. Show me again.

Sure. No... wait, Look at it from the outside, it moves. No more howls there either. Okay, just a sec.

Ken touched the screen again. That's the kitchen, I think.

An oven. I'll never use it.

You will! You'll learn.

Lying in bed together that night, after the thrills had sunk in, and Kylie had had long enough to think beyond the glitz, she whispered, It's a long way from Mum and Dad, Ken.

It's a lot closer to the cid. *Nailbite* played there. We'll be able to go. And we'll go and get your folks, they can stay.

Kylie was quiet a while. 'PD' won't be coming, will he?

Ken had been waiting for this. No, he said, dully.

That's how you get the job, isn't it?

Kylie! He pretended to sound affronted. No way! I showed them what I could do and they were impressed. I did it... for *all* of us.

She couldn't bring herself to say it, and in a way, she was almost relieved. Her husband was not telling her everything, she could guess that, but she could guess the rest anyway: low-level Security Guard with rotten teeth, no experience and no degree wins plum post. He must have told them about Peter. PD, the Greenlander with the big ideas and the hot tongue. He wouldn't drink yellow water, that's for sure. She'd hardly known him, it wasn't easy for Greenlanders to travel freely, but when he spoke of how things might be, she'd fancied him. Once. Once would have to be enough.

Kylie turned away silently and reached for her Mills and Boon. She glanced at the new blurb:

Worlds collide when demure Julie Sholten must choose between the two loves of her life.

#### **Dominature** THE SCENARIO STORY



Lachlan Murdoch scratched his head without surprise when the results in the 2022 Federal Elections hit the Electoral website at just one minute after 6pm on Saturday October 15. He'd taken the country by 42 seats. The 'new deal' Liberal Party, 10 years after the old version had died a slow death under Peter Costello, was in power and ready to deliver on its promise to run the country as a big business where voters were shareholders and he the CEO.

Craig Emerson's Labor Party government, which Lachlan ousted, had failed to deliver on its plan to decentralise power to local government. Once and for

all, those old labor values of education and community had been proved to be what they really were, middle class patronage parading as working class empowerment.

Lachlan thought of his dad, the ruthless Rupert, and wondered what he would have thought about his son as chief steward of Oz Inc. Certainly, the trying years of strain between them had limited their access to each other, but Rupert's seclusion in Outer Mongolia, where he lived like a hermit following his expulsion from the USA in 2017 hadn't helped. Lachlan had learned a lot from the old man. We live in a world in which resources are increasingly scarce and government is big. Political managers need the practical skills and rough justice of the world of business if they are to have a hope in hell's chance of making it.

You'd be right to guess that the lead on the culture of 'Big' had come from the USA too. American dominance in the first decade of the Third Millennium across all the 'geo' domains – politics, economics, military – even the arts and science - had generated a strong belief in the power of centrist governance and government utilising the equally powerful potential of new technology.

The swing to big business had been slow but inexorable.

The ten-year drought which peaked in 2010 was un-dented by efforts of local communities to educate and coerce its citizens into better water management. The opening of the mighty desalination plant at Kurnell in 2012 (privately funded of course by global players) was accompanied by a huge sigh of relief. Mirroring for electricity what Kurnell did for water was the opening in 2009 of Australia's nuclear power plant at Hill End. Old gold was replaced by the unexpected partnership between yellow cake and black water..

Weather-wise, of course, the economic downturn which encouraged 'Fortress USA' had been accompanied by yet a further global worsening of the weather. The major storms which swept through SE Asia in 2010-11, and the drought induced famine which was the scourge of Africa in 2012 accounted for 500,000 souls. Lack of water or, more accurately, lack of the right water, was a problem everywhere. The worst effects of the global water shortage were experienced in the Middle East, central Asia and Australia.

For the first time since the flight from Egypt, water was centre stage in the political arena. Water wars broke out. Mindful of the activities of unscrupulous settlers when the West was won in the USA, water aka 'blue gold' became a focus for criminal activity on the newly dubbed 'blue market'.

The complexities of climate change had proved too difficult to resolve at the local level – and by 'local' you'd include Australia's States. So Lachlan's election campaign had focused on transferring responsibility for the environment to the Federal Government with direct powers to control urban planning, transport education and health throughout the nation.

We'd seen it coming. Way back in the early 2000s, State governments had continued the process of privatising and corporatising which PM Keating had initiated a decade or so before. A water market emerged in 2007 and was followed by the infamous biological attack on Warragamba by terrorists under the name of Algal Qaeda. The extraordinary blue-green algal persisted until 2009 but by then the damage was done. People had lost confidence in the ability of the State bureaucrats to run the show. The events of 2022 were consistent with this; the only surprise was that it took so long to transpire.

The Algal Qaeda incident was followed in 2011 by a disease outbreak which appeared to be led by Al Jihad's smallpox terrorist group. Australia did not suffer badly but Shane Warne's death by a thousand spots when holidaying in Port Douglas with his fourth wife, was headline news and exacerbated the public's fear of the future. The prevalence of bio-terrorism was accompanied by the persistent decline in the fabric of Australia's agricultural sector. Desertification spread, and national parks dried out like dust bowls, and government had fewer and fewer funds to restore them. Reluctantly, they sold them off—one by one—to developers who built the towns needed to house the increasing tide of immigrants new enterprises required, and then demanded, when natural population growth ceased amongst GenX's aloof from nappies.

The shortage of potable water persisted until Kurnell was opened and concern at the perversity of water was exacerbated by coastal inundations which required sea walls to be built around Sydney beaches. 'Water, water everywhere and not a drop to drink' was never truer.

The decade from 2010 proved very difficult for the politics of water. Sure, Kurnell was in place but all aspects of the industry seem to suggest a general lack of concern for the environment. The scientists and local policy makers became increasingly frustrated by the lack of interest in their attempts to change people's water consumption habits. Local councils were powerless, too, as they did not have the funding to enact change on their own. Federal government tried to promote a national approach but it, too, failed to dampen the flow. For too long Labor politicians had relied on education to promote change without realizing what Lachlan imbibed in his father's headline-like conversations: the key drivers will always be fear and greed.

This latter perception was of course much more familiar to the world of business. CEO's worldwide picked up on these drivers to establish market position for their products and services and to motivate their employees. It was a tried and tested formula. Nevertheless, big business knew that the new economy was not without validity, and it supplemented its traditional values with an emphasis on innovation and networking. To secure its territory, big business cajoled governments worldwide to provide protection for intellectual property by issuing patents and trade marks despite the efforts of the open

source and creative commons movements to customise the protection of IP in favour of users and new creators.

The climax of the business control of IP became apparent at the 2015 free trade convention in Geneva when the Geneva Convention was re-written to extend protection in proportion to the amount of investment which had been made in the product or service. The Intellectual Property Patent Optimisation scheme was a huge win for business and created a global IPPOcracy for transnational corporations. The new laws ensured that business controlled the new GRIN technologies – Genetics, Robotics, Information tech and Nanotech, and also ensured the world stayed divided between the 'knowledge economy' rich and the 'knowledge economy' poor. (Oliver I have found the construction difficult – I know where you want to end up (last sentence) just not sure how the context of IP links to this end...)

This preoccupation with business had a subtle effect on the world as we knew it. By 2020 the idea of building nation states had all but disappeared. The world was not a 'league of nations' – united or otherwise- but more like a giant shopping mall, a 'league of markets' if you will. Traditional humanitarians might link the poverty in Africa to cultural and national disadvantages, but the scions of business saw it as a failure of those societies to open up to the transnational corporations.

We were now more likely to define our essence not in terms of our 'Australianness' but more in terms of our market position. The 'fair dinkum Aussie' was replaced by the 'market savvy' generation ('Gen Why Not?' as some punter quipped) whose allegiance was to personal not national success. The new philosophy brought with it significant blind spots. The social fabric was loosened because of the preoccupation with the personal and traditional attempts to build community values struggled against the attractiveness of the designer society: the sizzle of the brand was more important than the content of the sausage. Politics itself became unfashionable. There was a sense in which politicians were seen to be doing necessary but boring work in a hermetic sphere for which no-one really cared.

Gen Y, the building block of Lachlan Murdoch's world, was personally technophobic despite being (or perhaps because they were) surrounded by it, and optimistic about the future. Why should there be any brake on their desires? 'Nature', that preoccupation of Suzuki's baby boomer generation, was in second place, for the environment could only be really understood as a man made concept. We are intelligent, sentient beings whose capabilities ensure that we run nature and not the other way round. The idea of a pristine order of things was unhelpful. 'Ecology' was a tool for suppressing progress. There was no such thing as equilibrium or a natural state. We, not nature, are in charge and as long as we keep moving, progress is assured.

Who, Lachlan asked, ever wanted to belong to a society not keen to challenge nature rather than remaining "at one" with her in static equilibrium. What Murdoch would not rather live strenuously and die soon than fester indefinitely in inert contentment? Not that the environment always suffered. Win-win was always in.

The 'dominaturalists' as they became known became a force in the late 2010s and we could see an exact fit between their values and those of big business. Everything was about scale and control. The ethics of the market economy writ large. Coal and nuclear power, desalination, online doctors, global teaching networks and petroleum cars expressed the values of the dominaturalists. But so to did national emblems, like rare

megafauna, *giant* trees, elephants, wolves and anacondas and there was a new curiosity about the very depths of the oceans. If you were endangered, but big, your chances of protection actually increased. And no doubt the colonization of space program which the Chinese and Americans launched collaboratively in 2018 was going to make the Star Trek of the 'seventies the new tech of the 'twenties.

Lachlan Murdoch fitted effortless into the new scene. He's been weaned at the knee of business and had a burning ambition to make a difference. When he rose to power, it was clear that business estate needed more than a competent CEO. It needed an ally who would demonstrate the preeminence of an MBA approach to politics and unify people in their focus on creating new places and wide-open spaces for a successful future.

He stopped scratching his head and made his way to the rostrum to give his acceptance speech... and he'd release not a dove but a double-headed eagle from the balcony

#### **Dominature - Timeline to the Future**

## Five years Beginning ...

2005	Drought ongoing
	Extreme rainfall event
	Blue green algal event
	1 large desal plant
	Water market evolves
	More towards govt centralisation
2010	Nuclear power
	States concedes control to the Commonwealth
	Fear of climate change
	Princess Mary/Queen Mary assassinated while visiting
	Canals/channelisation of Sydney
	Miniature desal plants
	Disease outbreak – algal outbreak
	Large desal plant (second)
2015	First terrorist attack on Sydney's water supplies – 2000 poisoned
	Nuclear power in Sydney
	Coastal inundation
	Desal plant (third)
	Agriculture collapses – national parks become dust bowls
	National Parks sold off
2020	Sell National Parks for residential development
	Coastal inundation events
	Sea-walls around Sydney beaches
	Partial melt-down of nuclear power plant in Goulburn
2025	Talk of damming Sydney Harbour – construction commences
	First of the Chinese – American wars commence – general
	conscription in Australia begins
	Population decrease in Sydney by 25% - people moving to NZ +
	Darwin

#### Cameo of the future in Dominature

Date July 2029 Name Li Kang Tan Age 27 Occupation and Location Network Manager, GE Bank, Sydney

Kang Tan Li was furious. 'Not bloody likely', she yelled down her polyphone to her sister, Chui Yin, 'Why would I want to go on an anti-US pro-China march! Let them fight their own bloody battles, it's got nothing to do with me? Yes... I know I *look* Chinese,' she replied to her sister's obvious riposte, ' but first and foremost, I am me, secondly if I am not in Sydney, I'd like to be in Berne, not Beijing.'

She snapped the phone shut. Her sister sure knew how to get under her skin. But, she pondered, that's the purpose of siblings.

Kang Tan had been at GE Bank since it had opened in 2027. She liked the US approach to banking. A global approach with risk strategies linked to benchmarks which they kept to themselves and a 'no prisoners' approach to anyone inside or out who didn't want to play the game. She actually felt secure in this environment. She did not have to pander to anyone. It sometimes seemed frustrating not to control the rules of engagement but on the other hand GE was pretty clever at delivering upgrades in technology and related processes, they kept you at the cutting edge. They looked after you morning noon and night. The polyphone was standard fare and operated as the best convergent mobile technology since the myPod blasted into being almost 15 years ago. GE also owned the units built on the land vacated by the Navy when the Quarantine Station near Manly was sold.

Her parents migrated from China and settled in Marrickville before moving to the new town of Howardville which burst into life when the Ku-ring-gai National Park was sold to developers. The diminishing natural environment did not worry Kang Tan. New technology kept us ahead of the curve and she had faith, real faith in our ability to stay ahead. Who needed grass and trees when you could get all the spiritual encouragement you needed from audio-visual and virtual reality?

The new 'waterbot' looked as if it would deliver the water savings we struggled to achieve at great sacrifice without any effort at all. She was reminded of the success of the ubiquitous health pill, Wellagra, which she had been on for 5 years now. You could eat whatever you want whenever you wanted. The pill readjusted your metabolism to compensate for harmful toxins and the like so you were always well. Problems like obesity, cancer and premature ageing disappeared at a stroke.

Kang Tan's polyphone rang again. This time it was her stockbroker telling her that the shares in WaterTek had risen a massive 7% - the second rise in the last few days. It was great, she thought. If you have the bread you can make money out of technology. No wonder the Global NASDAQ was sitting pretty at 28,000 and beating the local exchanges hands down.

And then she thought about the coming week end. Chui Yin would be at the demo, no doubt. But me? I'll be going on a canal cruise to celebrate the completion of the Murdoch Dam across Sydney Heads. With horror she realised she maxed out her 'W' card and has no water to wash her hair and the nuclear powered desalination plant is on the blink again. In desperation she resorts to using bottled water – a serious water crime!

Oh well, she thought, tipping it down her neck, GE will look after me if I get caught!

### Scenarios to Strategy for Urban Water Management in NSW

## 1 Early Warning Indicators (EWIs) and an overview for the four scenarios

An early warning indicator is a weak signal of change. It is an event or a change in circumstances that signals the direction of the future. Identifying EWIs is a critical step in implementing scenario planning into future strategic choices.

The following is a discussion of early warning indicators for each of the four scenarios.

#### Shrek Corp

In this scenario, Ice Flu (or any water related pandemic) is seen as a critical uncertainty for the future and it might well be compared with the current threat today of Bird Flu. We need to track signs of <u>'natural' disasters impacting on water.</u>

This scenario told not only of centralised governance for NSW in the form of one mega-water corporation, but also of a global management body for water. It would mean <u>large blocks of</u> governments coming together such as the European Union, the Americas or ASEAN.

**<u>Rising global consciousness</u>** is able to embrace issues that affect people locally as well as seeing them as having universal significance to all people across the globe and, thus, requiring coordinated management on an international or global scale.

This form of management reveals inherent tensions between people's community, state sovereignty and universal/global control.

The scenario told of a global management body that still managed to maintain original green values. Would it be possible to for this ethos to be maintained as the body got bigger and bigger? There is a tension here between a communitarian focus and an ability to trust in something bigger. <u>Media coverage of these tensions will act as an EWI</u>

Another EWI for Shrek Corp might be <u>the monitoring of household water consumption</u> Pricing regulator accepts monitoring water use on all pipes as a means of identifying water consumption and price. (Note: to some extent this is beginning as Sydney Water Corporation through their Every Drop Counts Program which is identifying the top water users and conducting audits and funding monitoring of use as a tool for water savings).

<u>The use of "flip flops"</u> fitted to all pipes would be one way Shrek Corp could pinpoint the exact amount of water consumed per household. The use of this or other cheap and easy monitoring techniques could be a weak signal of a change in the direction of this scenario. Currently Sydney

Water do not use this technology given the high cost for broad spread application however as demand management becomes of greater importance this may change.

#### EWI - privatisation of water utilities

The current debate over the proposed selling of the public utility Telstra was likened to the selling off of water utilities, hence an early warning indicator of change. This change may reflect the shift by government as it distances itself from the issues in turn enabling the transition from public utility, to corporation at lastly privatisation.

It was noted that although the public think they own Telstra, it is really run by an elite few. Hence the key is not ownership, but rather where the decision making occurs. Decision making within Telstra is run by the elite, with shareholders having no real say. It can be asked that, since decision making does not effectively lie with the public/shareholders, do they then really own it? How is the ownership of the asset viewed by the different stakeholders? Does the government behave as if they own it? Decisions by the government appear to be imposed upon the public.

The issues surrounding Telstra may be likened to those for the proposed desalination plant at Kurnell.

This asset is designed to provide a steady income stream, which will therefore allow for it to be sold off in the future at a profit to the government.

Kurnell may be a case of government imposing decision making on the people about water management rather than seeking broader public and expert opinion. For instance, the lack of community consultation (that is a two way dialog rather than the presentation of an option) about this decision and the opposition from green groups, academics and others is a signal that decision making is occurring behind closed doors on the pretext of **government showing strong decision making ability**, albeit arguably reactionary, rather than relying on robust community and expert deliberation.

This interpretation suggests that this could be seen as an early indicator of change.

The privatisation of water utilities in Britain could be an indicator of what may happen in Australia. There, Local Councils originally provided sewerage services. These were then agglomerated into one large body and sold off to the private sector. There are now laws about how many assets one company may own with a view to reducing the monopoly of multi-utilities. In Australia, some electricity assets have already been sold off. A monopoly of utilities is already been seen in Australia with some companies buying up big. As companies get bigger and bigger, there is a fear that they will then begin to fall apart.

This has implications for our scenario. For instance, it was noted that the scenario planning can be triggered by a two dimensional model which makes many assumptions. For example, could such a large organisation like Shrek Corp really function as an effective provider? Does it reflect real life? Perhaps a third dimension is needed in the model on a continuum from 'effective' to 'not effective.' We should remember the purpose of the two variable matrix. This method of creating

scenarios is a means to an end; ultimately we want the matrix to disappear, revealing in its place various plausible future scenarios suffused with complexity and not simplicity.

What are the tensions in the Shrek scenario? Firstly it relies on many technological enablers to have worked. The cost of energy is also a risk, however this scenario has that sorted. Also public health and public liability, also sorted.

In regards to risk, the issue of market forces being a reliable solution was questioned. Market forces do not solve everything unless we are in surplus and, even then, the discrepancies between rich and poor may grow. Markets absolutely fail to provide in times of shortage, downturn particularly to the socially and income poor.

<u>Australia's new draft terrorism laws (terror Australis!)</u> reflect a top down approach from Australia's Federal Government. This top down approach is likened to the functioning of the Chinese government today. For example, China's move towards becoming a free market. In China, the public may trust the government and are very optimistic about the future. The top down approach works in China because the government is highly sensitive, and importantly responsive, to public opinion. Hence, an early warning indicator for the Shrek scenario could be when government becomes less responsive to public opinion.

#### Greenacres

In this scenario, an environmental disaster was required to create a radical shift in the way we do things. The breaking of Warragamba Dam is a metaphor for this.

In this scenario, sustainability is driven by the local. There is a hollowing out of the middle level of government coupled with a broader top range of government eg parliament of the communities. Technology is not enough here, there is a need for local communities.

#### EWI - change in the perception of distance.

As satellite communities become the norm, perceptions of distance change. Sydney is restructured into small communities within a larger shell. People no longer travel long distances to work, everything that need is close by. The local community becomes much more relevant, as does the local government. State governments become less relevant. The Blue Mountains is a good example of this. Although there is a percentage of the population that travel the considerable distance into Sydney everyday, there is a strong sense of community here. This action could be precipitated through a further increase in petrol prices that force the community to reconsider the use of the car and the type of commuting for both work and pleasure.

<u>**EWI** - attitudes to the effectiveness of State Government</u>. This could be reflected in the continual restructure of departments and ministerial portfolios and the shifting of responsibilities up (Federal) or down (local) government.

This is tied into the last point where local governments take on much more relevance to smaller social communities.

The failure of infrastructure and bureaucracies directly affecting people. As a consequence, there will be a move to voluntary codes of safe or environmentally good practice that cannot get a

'whole of government' signoff. For example Draft documents will become by default accepted standards in the absence of formal signoff and approval. The community will determine itself standards are suitable and appropriate.

Small locally based technology takes away the need for large state run construction eg dams and power plants. Presently the Federal government has a massive surplus, drawing responsibilities away from the states. At the same time, State governments are in the red, and delegating responsibilities down to local government. Hence, there are push and pull forces at work leaving State governments in a vacuum. This hollowing out of middle level government is an EWI.

#### EWI – people migrate away from cities

Urban drift as people become disgruntled with city life eg due to the cost of living or unaffordable house prices. This is being seen in the migration to Tasmania by many where the pressure on resources is not so great.

As cities become more expensive places to live, the high cost of energy, water, fuel and property prices become constraints and demand plateaus off.

Self sustaining developments begin to replace local government. As monitoring of resource use increases, people increase their awareness and care, and incentives to be green increase.

The Y-generation is interested in the things they can themselves can control. They are focused on the "i" and are inward looking. For example they care about their i-pod, but not for things like Iraq that are beyond their control.

This scenario is very urban focussed, but what are the implications for the rural communities and land? There is a tension here between urban and rural. For example, bad planning for Western Sydney. The dispersed sprawl of satellites shouldn't rule out big cities. The more spread out the more we see a change in attitude towards the "not in my backyard" mentality.

Look for a positive shift in interconnectedness between home and work.

#### Damn Creek

Although this scenario presents a very sad story for the future, does it really have to be such a bad place?

#### EWI - people's focus shifts to the "here, now, me"

The last Federal election campaign was all about the individual. For example, interests rates that affect the individual's bank balance. This was at the expense of community issues such as the environment, which hardly got a mention. The campaign issues were focussed on the here, now, me, with little concern for the future. In this sense, we are currently seeing real life indicators of the Damn Creek scenario. A growth of gated communities reflects this trend of social exclusion over and beyond suburb exclusivity (reflected in property prices).

#### Shifting of politics away from the central or moderate to a more conservative paradigm.

The failure of alternative government to sell the message of social sustainability ahead of hip

pocket advantages and therefore not get elected sends a clear message of the introspective and self interested nature of the collective decision and mindset.

Recent events in New Orleans also contain indicators for this scenario where the veneer of successful capitalism washed away to reveal a mixed population of poor, black, elderly, ill and vulnerable people.

In this scenario, the economy is everything and humans can override the environment, eg sea walls. The indicator from this is the *engineering dominance over nature* – not too dissimilar to were we are today

There are also indicators of this scenario currently seen in popular culture, for example the explosion of reality TV. The team of Backyard Blitz make over your courtyard to provide a secure and private space away from your community. Here the focus is on private space rather than large community space in the form of co-op vegetable gardens or beautiful public gardens.

"Big Brother represents the tragedy of the commons, Jamie Durie (Backyard Blitz) represents the success of the affluent and Australian Idol is your ticket out of here"

This Early Warning Indicator of an inward looking population can also be seen in Australia's response to the Kyoto Protocol designed to reduce greenhouse gas emissions from more developed countries. Australia's attitude has been "why should we reduce ours when you are so far ahead of us"

The similarities between Shrek Corp and Damn Creek can be seen in this individualistic focus.

#### Dominature

In this scenario, there are low environmental values and a high level of governance.

The wild card in this scenario was the rising sea water and the construction of sea walls around Sydney beaches.

EWIs suggested – in his new book, The Weather Makers, Tim Flannery (author of the Future Eaters) identifies us as the climate makers. This suggests we are protagonists in the 'natural' disasters and not innocent bystanders. This scenario presents a natural world dominated by centralist governance and our role as influential actors in all the domains of INSPECT.

The irony in this world we dominate is the denial of our role as protagonist. Whether as argued by Michael Crichton in his book State of Fear that policy decisions should be grounded in independently verified studies—because that is the only way to get the politics out of science – we see the continued need for reinforcing scientific evidence of climate shifts and other significant global affects. In particular many governments and influential lobby groups seek evidence of proof beyond reasonable doubt not simply the balance of probability. This continued questioning of some governments in the face of the overwhelming balance of evidence suggests a steady as we go approach will be the norm.

Subtle indicators of this scenario were seen in the recent closed meeting between John Howard and heads of large corporations (CEO conference).

### **Scenarios to Strategy**

#### Introduction

By building scenario worlds, we create a strong sense that we can visualise the scenarios, even if we don't really agree with them or believe in them. The important point is to be able to visualise that they 'could' happen. We are after all mapping alternative futures and not one 'official' future.

The different scenarios worlds are complex and distinct as well as having overlapping features. They intersect with and vary from each other, expose critical uncertainties in different states and share predetermined elements where the boundaries are not visible between the worlds.

It should be noted that our scenario planning for urban water management is being done quickly with a very condensed timeframe; we will need to create time for reflection.

The big ask when, exhausted, we have completed the scenario building exercise is usually ....so what? How will this help me in the operational side of urban water management? How do we move from scenarios to strategy?

This is no easy challenge and yet, unless we can join the contextual world of scenario development to the operational world of water management and organisational planning then we are unable to use the scenarios to add practical value to our day to day activities.

The first task is to map the strategic options which each scenario is suggesting. We often cluster these by an area for policy action and this we have done in this process.

### **Strategic Implications For Urban Water Management Policy**

#### Shrek Corp

#### Water Policy

In this scenario, water has a high value.

#### Stormwater Policy

- Harvesting opportunities
- Quality answered by technology leads to uniform quality across the board
- Reserves allocated to environmental flows
- Ownership of stormwater is it a public or private resource?
  - rebates to individual properties
  - tariffs and charges on excess use
  - dependent on where it falls and how it is collected

#### Storage Policy

- Individual and community local authority Shrek franchised
- Tradable water rights

#### Waste Water Treatment Policy

- Individual/Residential recycling the level of purity determines value
- Quality assurance eg registration, licences
- Disposal of solid waste franchised local authority
- Strata community based for high density housing

#### Reuse Policy

- Within building
  - compliance regulations and real time monitoring alarms
  - health servicing standards
  - central policy
- Collection of solids
  - hydraulic, or
  - dry collection
  - cost of collection vs. value of product

#### **Public Policy**

#### Energy and Environmental Policy

- Energy = Greenhouse balance
  - tradeable rights?
  - carbon credits
  - = Price determined by source/carbon sequestration potential
  - = Centralise policy
- Environmental flows, access to sunlight, access to wind etc.

#### Social Policy

- Rights of access
  - concessions for aged, young families etc basic level entitlements
  - public health (disease prevention) safe water, sanitisation and immunisation

#### Urban Development Policy

- Differentiating between low and high density development areas
- Comply with building regulations and government policy on sustainability
- Seek to return to natural runoff to creeks high quantity and quality
- New development to meet evolving and increasing energy (and water) standards
- Static water supply ensuring available for fire fighting residential and community. In bushland areas this supply is supplemented by increase storage accessible for combat agencies during emergencies.

#### Health and Security Policy

Payment to Shrek from government linked to Shrek's success in maintaining high standards (benchmark and beyond) (this is opposite to the current Sydney Water arrangement where the payments go the other way).

- Fire fighting alternatives to water particularly for residential and commercial fires
- Increase in community supplies decreases impact and likelihood of bioterrorism
  - backup/top up water supply is centralised

#### Greenacres

#### Water Policy

Stormwater

- Capture of rain water for reuse on buildings become mandatory building design elements specified in building codes
- Community projects to collect and manager stormwater runoff are prioritised and funded through (local cooperatives or councils) that have the powers to raise their own rates or levies.
- Community partnership projects become a dominant part of the social fabric such as volunteer bushcare and dune care, cleanup days. These reinforce the value and importance of public land and its role in the social fabric of the society.
- Large enterprises such as industry and mines have the same responsibility as individuals and work within their areas and community to achieve social and environmental benefits

#### Water Storage Policy

- Self capture / rainwater capture
  - reflected in building codes and local policies particularly for single dwelling residential properties
  - For higher density developments buildings standards require a cooperative retention of collected stormwater that provides water benefits to the buildings and other public areas such as parks and gardens
- Stream/Catchment Greenacres part of regional governance cooperative of catchment
  - would village take water from downstream of the village and dispose of waste water upstream as a means of ensuring water is not polluted
  - On site management of runoff
  - Water trading/collective capture ensures that environmental flows are maintained
  - How do we agree to distribute for public and/or environment?

#### Waste Water Treatment

- Local no waste discharge policy, but any discharge that does occur is managed centrally with discharge quality standards very high
- Waste water and nutrients are recycled and used back for other activities
- Waste water reused in community for certain purposes
- Proactive source control
- No products are sold that have a negative impact on the operational of waste water systems
- local laws outlaw products for sale
- education
- Composting toilets / separation of solids and urine as a means of eliminating endocrine disruptors (these are the hormones in the Pill that have the capacity of affecting fertility etc...) from the water supply

Onsite waste separation

#### Reuse

As above

#### **Public Policy**

#### Energy Policy

- Green roofs to promote energy conservation and greater emphasis on landscaping
- Solar energy mandated via building codes requiring photovoltaic cells on roof panels
- Decentralised energy (where possible at the commercial or residential level) to control pollution
  - no waste streams
  - small scale energy needs

#### Environmental Policy

- Streams as per earlier
- Local
- Restorative projects are a focus high participation (eg: bush regeneration and creek restoration)
- Local regulation of impacts (pollution, high stormwater flows that erode streams etc...)
- Self learning and continuous learning are part of the community's culture
- Very proactive to ensure local employment/business services and education all local

#### Social Policy

- Dispute resolution body eg Council of Elders, inclusive and multicultural
- Higher connection means more "socialisation control"
- Decentralised means less likelihood of terrorist attack
- High cooperation society localisation and local dispute resolution
- Local employment and education available locally or by virtual
- Transport? Only used sparingly on high value/return (energy cost impact looked at)

#### Urban Development Policy

- Small scales
- Population control new communities assisted
- Mixed use neighbourhoods
- Jobs in lots of locations
- No CBDs

#### Migration Policy

- Growth model? Subsistence model
  - opportunity is not idealised limits to migration
  - world governance

#### Security Policy

- Security higher level of social capital and trust but,
  - movement between communities

- NIMBY/NOTE issues must be watched closely
- Small security peoples policy
- Restorative justice regulated by peoples police
- Council of Elders
- Community based sanctions
- A lot of proactive programs education and social groups

#### Health Policy

- ✤ All of the above
- Community based health
- Centralised
- Education re local water quality
- Cholera?
- No private swimming pools
- Lots of community education on health less obesity lots of walking
- More bouts of gastro
- Local hospitals
- Deconstruct the age stratification
- Each of the small communities have specialist services eg hospitals

#### Damn Creek

#### Water Policy

- Government subsidies?
- \$ value increases, equity
- Poor quality water for the poor
- Waiting lists for higher quality water
- Deregulated system for pricing, quality and access

#### Stormwater Policy

- Government sells the right to capture water and separate rights to harvest water
- Collect and maintain the stormwater at the creek endpoints (no concern for health of creek), poorer people are left to collect water from end points
- Harvesting your own water to avoid costs sell excess to private companies

#### Storage Policy

Body Corporate ruling – makes water available for the rich, give minimal entitlements to the poor so they can work for the higher class

#### Wastewater Treatment Policy

- Private company to treat sewerage. drinking water pricing assures profits with lower quality quality water supplied for other purposes
- Pump sewer to creek if necessary price drives outcome.

#### Reuse Policy

Buy all drinking water – reuse water for showers, cleaning and the poor (for drinking)

- Price dominated user pays if the infrastructure doesn't cost too much we can still make money
- Rich user pays for higher quality water for gardens and amenities
- Poor less showering, increased restrictions, capture their own water to save money

#### **Public Policy**

#### Energy Policy

- Compartmentalise energy
- Energy intensive infrastructure = increase energy use

#### Environmental Policy

- Weak environmental policy it's about 'people'
- A/C gets abandoned increase\$

#### Social Policy

- Manipulated perceptions (social engineering) a virtual world
- More government policies gated through Strata companies
- More choice leads to higher demands leads to fragmentation
- Protection against social disadvantaged
- Sheltered security people don't go far from home
- Rules governing number of children allowed per couple?

#### Urban Development Policy

- House design shift to 'passive design'
- Global warming means a decrease in need to heat in winter, but more cooling needed in summer
- High density urban development
- Underground housing to escape heat
- New housing will have innovative designs to save energy and water
- Water star ratings on buildings and materials

#### Dominature

Policy is driven market forces

#### Water Policy

- No consideration of aquatic ecosystem health
- No protected water catchments
- Individual "W-Cards" (i.e. smart cards) with caps on use of different qualities and payment into future options available at the homezone
- Multiple service water providers has created complex interactions and contractual arrangements between providers and consumers
- Meters on all taps to determine total use and quality (related to strict demand management strategies)

Stormwater Policy

- All water that falls on your property you own and can sell to another company (entity), but there would be a tax to pay to the government
- Stormwater policy very focused on flood mitigation and capture

#### Reuse Policy

- Water purchase and sale prices relate to water quality and quantity (fit for purpose), there are incentives in place to treat water
- Water is categorised/managed/priced by its quality not its source (i.e. not stormwater as a separate component)

#### **Public Policy**

#### Energy Policy

Essentially unrestricted as have nuclear power in NSW so no demand management policy for energy needed

#### Environmental Policy

This policy relates to natural resource exploitation

#### Social Policy

Financial incentives for population growth

#### Urban Development Policy

- Private parks established with user fee mainly for recreational value (some are former National Parks)
- Negligible controls on urban development

#### Health Policy

- Clean water is a status symbol as it is a privilege of the wealthy
- Pills can be purchased for all waterborne diseases
- Limited subsidy for purchase of clean water for pensioners for their 'W-Card' and other services

#### Security Policy

Water security is responsibility of water suppliers (big issue – private security control)

#### From Implications to Options

We now need to form a view about the relevance and robustness of the strategic implications across all the scenarios. Remember that the scenario process creates alternative futures and the strategic implications are not the same in each world. At this point, we would also put into the mix the strategies which already exist in our current water planning strategies and give them the same treatment as the implications generated from the scenario building we have been doing.

We can sort the results of this process to classify the Strategic Options into three groups – 'Nobrainers'; 'Keep safes'; and 'Riskies'. The **No-brainers** are the strategies which are predetermined because they are highly relevant very relevant in all of the scenarios. For all imagined futures, these are the policies we have to put in place.

The **Keep-safes** are the strategies which are very strong in two scenarios and so need to be addressed in formulating our strategic plan.

The **Riskies** get the nod in only one scenario and so we need to be cautious about the timing of their implementation.

Please bear in mind that the sensitivity and significance of the strategies increases the more they are differentiated in each world. We need to focus on the 'Riskies' because it is these strategies which become critical as the future unfolds.

Strategies	Shrek Corp	Greenacres	Damn Creel	Dominature	e Rating
Stormwater harvesting for	High	High	High	High	No
reuse	(will allow	(will allow for			Brainer
	flows)	enviro nows)			
Ownership of water falling	High	High	High	High	No
on property rests with	(but			- ign	Brainer
property owner	tradability				
	exists)				
Storage – protection of	Medium	High	Low	Low	Risky
Storage -	Hiah	High	Low	Low	Keen
Building codes	i ngi	i ngin	2011	2011	Safe
enable/permit storage					
(onsite treatment)					
Pricing policy of water	High	Medium	High	High	No
yield on private property					Brainer
(landholder right)	Lliab	Irrolovant	Lliab	Lligh/modiu	Im Koon
	підп	melevant	(resource	Figh/mean	Safe
			value)		Gale
Quality determines price	High	Irrelevant	High	High	Keep
					Safe
Is source control	High	High	Low	High	Keep
practiced?	(price	(price		(price	Safe
	regulated)	regulated)	1	regulated)	Kaan
is reuse essential?	High	Hign (zoro wasto)	LOW to	LOW	Keep
	determined	(Zelo waste)	melevant	(market driven)	Sale
	)				
1	. /	Publi	c Policy	<b>I</b>	
Energy and Environment	High	High	Medium	Low	Кеер
a) demand management	Ŭ				Safe

#### Water Policy Strategic Options

b) decentralised energy eg Star	Medium	High	High	Low	Keep Safe
c) reduce transport needs	Irrelevant	High	Low	Irrelevant	Risky
Social Policy a) concession for disadvantage groups	High	Irrelevant	Low	Medium	Risky
b) Local Policy making	Low	High	High	Irrelevant	Keep Safe
c) mixed community	Irrelevant	High	Low	Medium	Risky
Urban Development a) village community	Medium	High	Medium	Irrelevant	Risky
b) energy efficient development	High	High	Low	Low	Keep Safe
c) privately owned nature parks (user pays)	Medium	Low	Low	High	Risky
Health and Security a) high level social capital	Low	High	Low	Low	Risky
b) quality of supply	High	High	High	High	No Brainer

This second Table has been compiled from people who did not attend the Workshop and who are interested in the outcomes.

	Shrek Corp	Greenacres	Damn Creek	Dominature	Rating
Stormwater Quality					
'Purple Pipes' mainstream infrastructure in all new subdivisions	High	Med to Low?	Irrelevant	Irrelevant	Risky
Road design incorporates WSUD and connects to trunk drainage system for major storm events only.	High	High	Irrelevant	Irrelevant	Keep Safe
Constructed wetlands dominate treatment.	High	Med	Low	Irrelevant	Risky
Stormwater integrated as part of landscape on site.	High	High	Irrelevant	Irrelevant	Keep Safe
Residential and commercial discharges meeting pre determined assimilative capacities of receiving water bodies	High	High	Irrelevant	Low	Keep Safe
Disconnections of trunk drainage to create regional	Med	High	Irrelevant	Low	Risky

**Scenario Outcomes for Government** 

detention.					
Subdivisions mange own stormwater through development conditions.	High	High	Irrelevant	Low	Keep Safe
Stormwater infrastructure underground	Low	Low	High	High	Keep Safe
Lake style – (water feature) developments having aesthetic function only	High	Low	Irrelevant	Medium	Risky
Majority of stormwater outlets have gross pollution control structures only.	High	High	Low	Low	Keep safe
Controls for nutrient or appropriate environmental flows.	High	High	Irrelevant	Irrelevant	Keep Safe
Stormwater Quantity – Flood Control					
On site detention a high priority	High	High	High	High	No Brainer
On site detention policies coupled with on-site retention for reuse.	High	High	Low (on-site detention for flood control only)	Low (on-site detention for flood control only)	Keep Safe
Peak flows are managed to protect public safety and reduce property damage	High	High	High	High	No Brainer
Peak flows managed to reduce impacts on streams and waterways.	High	High	Low (Peak flows are managed to protect public safety and reduce property damage only)	Low	Keep Safe
Centralised OSD	High	Low	Low	High	Keep Safe
Flood plains allowed to be developed	Low	Low	High	Med	Risky
Increase in stormwater infrastructure to	High	Med	Low	high	Keep Safe

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manage flood events to 1 in 10 years					
Waterways piped wherever practicable.	Low	Low	Med-Low	High	Risky
Riparian Health and Receiving Water Condition					
Pipe networks embedded with nutrient removal technology.	High	Med	Irrelevant	Irrelevant	Risky
Councils manage riparian systems which are being rehabilitated.	High	High (+community consultation)	Irrelevant (Buffer zones removed from Riparian zones and unwanted riparian buffers and systems sold off)	Irrelevant (fundamental ecosystem health not considered)	Keep Safe
Biodiversity managed through a range of measures including WSUD.	High	High	Irrelevant	Irrelevant	Keep Safe
Maintenance geared towards improving environmental health.	High	High	Irrelevant (Maintenance geared around increasing hydraulic capacity)	Irrelevant	Keep Safe
Increased regulatory environment for DAs as regards to silt etc during construction	High	Med-Low	Low	Low (Master planning allows for construction of many more boat ramps, levees, weirs, etc.)	Risky
Bioremediation used to assist in rehabilitation of degraded waterways	High	High	Irrelevant	Irrelevant	Keep Safe
Landholders have autonomy to build structures to impound local creeks, harvest	Irrelevant	Irrelevant	High	Low	Risky

unlimited quantities of runoff and remove trees from their own land					
Receiving water condition measured to include environmental health as well as ability to support human recreational use	High	High	Irrelevant	Irrelevant (Receiving water condition measured solely in terms of ability to support recreational activities and human amenity)	Keep Safe
Piping [and channeling] of drainage corridors becomes normal activity. [in urban areas]	Low	Low	High	High	Keep Safe
Sediment from rivers dredged and sold back to the community.	Irrelevant (rivers would never be dredged)	Irrelevant (rivers would never be dredged)	Medium	High	Risky
Waste Water Management					
Waste water is reused	High	High	Low to irrelevant (market forces alone dictate reuse – therefore dependent on supply)	Low (some water reused for public irrigation but "once- through" use of water remaining the norm)	Keep Safe
Large scale potable- reuse, via return of highly treated wastewater to the city's water supply and distribution systems.	High	Medium	Irrelevant	Irrelevant	Risky
Centralised waste water treatment	High	Low (decentralised)	Low to irrelevant	High	Keep Safe
Residents are forced to retrofit their houses to better use waste water	High	Med (Households get support in	Irrelevant (Residents are allowed	Irrelevant (A deliberate refusal to	Risky

		managing their waste water)	to not deal with waste water issues)	develop a waste water policy)	
Requirement to demonstrate minimum operating standards	High	High - Med	Low	Low	Risky
Infrastructure Planning and Resourcing					
Dual pipes mandatory for all new development to enable connection (new or in future) to recycled systems.	High (regional)	High (on site)	Low	Low	Risky
Provisions for fire management	High (stormwater storages in road verges and at the property boundary)	Medium (Static water supply provided decentralized locations for fire management.)	Irrelevant	Low	Risky
Strong DA regime	High	Med-Low	Low	Low	Risky
Potable Water Supply					
Desalination used as backup supply	High (powered by nuclear energy)	Medium (used as last resort only)	Low	Low	Risky
Sewer mining used for non-potable uses.	High	Medium	Low	Low	Risky
Environmental flows maintained through recycled water schemes.	High	High	Irrelevant	Irrelevant	Keep Safe
Rain harvesting encouraged	Med-high	High	Low	Low	Risky
Rain harvesting encouraged Local waste water treatment for <u>potable</u> supply	Med-high Med (Recycled river water used for potable supply)	High High	Low Irrelevant (non potable only)	Low Irrelevant (non potable only)	Risky

### Conclusions

The scenario planning process involved many players within and at the edges of the water industry in NSW. Through the process, four separate yet seemingly interconnected futures were developed. Elements of these futures incorporated monitoring water use at every tap, having neighbourhood-based water supply and recycling schemes, significantly increasing the price of water (reflecting purity) regardless of an individual's ability to pay or the belief that technology will prevail and provide for all our needs without compromise.

What ever the case, our water future will be managed and perceived significantly different to that today.

A specific outcome of this exercise was to explore the future of water management in NSW with an emphasis on how it may impact on stormwater planning. To this end, the current emphasis on a 'greener' stormwater future may not be the 'no-brainer' we may like to imagine. Government priorities, community values and a move to a less stable society all have the potential to change current directions in stormwater planning. These need to be watched to ensure the validity and relevance of current public policy.

A key element in the development of the scenario planning process was the understanding that the water industry is indeed complex and subject to many intervening pressures. Some we can influence, others we can at best imagine and hope to plan for. Notwithstanding the immediate issues of water supply in many urban areas in NSW, the recognition that the way water across all its forms is governed remains a critical issue if a more sustainable future, what ever this may be, is to be realised.

How we plan and act now and in the future either to avoid regret and mistakes and ensure options are created not determined will in part depend on all players across the industry identifying and monitoring the presence and impact of the various early warning indicators identified in this report.

While not comprehensive, these signals of change and in particular the impact of wildcards need to be incorporated into future planning to ensure planning is considered and thoughtful and not subject to knee-jerk reactions, disguised and couched as strong leadership.

Finally, while the development of the each of the scenarios moved us outside our 'preferred future', elements of realism within each scenario were grounded with truisms present today. We cannot predict the future, however, through the scenario planning process we have started to improve our thinking which can only lead to better strategic decisions and a more secure outlook.