

Futures of Heat, Light, and Power: Scenarios for the Australian Energy Sector in 2050

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January 2020**

1.0 Introduction

On 2nd and 3rd December 2019, Energy Consumers Australia (ECA) convened a scenario planning workshop to generate consumer-focussed future contexts for the supply of heat, light, and power in Australia.

Participants included representatives from across the energy sector, including market bodies (regulators, operators and rule makers), consultants, and consumer advocates.

The process aimed to build an overview of how consumer needs and priorities might evolve as economic and social contexts change, with particular attention to energy technologies, systems, and markets. The process also aimed to draw out implications for the long-term future of energy in Australia.

The workshop facilitator was Matt Finch of MechanicalDolphin.com. Matt serves as a facilitator on the Scenarios course at Oxford University's Saïd Business School. The Oxford Scenario Planning method, adopted for this project, uses group work to devise multiple future scenarios, articulated as systems and stories.

Scenario planning does not seek to predict what lies ahead, but to explore areas of uncertainty. It does this by generating plausible futures - that is to say, ones which definitively challenge current assumptions while still opening useful debates as to practical strategic choices.

The value of a scenario does not lie in whether it will come to pass, but in whether it forces us to reconsider the environments in which we may have to operate. There is a strong emphasis on uncovering potential situations which are currently being avoided, or not being imagined, in accepted framings of the future.

These scenarios present questions, challenges, and future visions which are intended to highlight aspects of Australia's energy future which lie beyond current strategic framing.

The workshop was designed to complement existing strategic work in the sector, including the Australian Energy Market Operator (AEMO)'s 2019 forecasting and planning scenarios, and forthcoming consumer expectations research.

1.1 Methodology

The session began with an activity to identify the currently accepted framings held by the group, including "known unknowns" - issues which participants knew were currently not being prepared for or taken into account.

Scenarios were then built around the role currently held by the Council of Australian Governments' Energy Council (COAG-EC). This council was chosen because they serve as decision-makers within Australia's energy system who are linked to many stakeholders and levels of hierarchy within the energy market.

Participants mapped the system of interactors surrounding COAG-EC, and identified driving factors for those interactors. Groups of participants then each selected a small number of factors from the map, and arranged these into relationships that could serve as the basis for a plausible future scenario, looking ahead thirty years to understand how today's strategic choices and their consequences might be perceived a generation from now.

The scenarios were iterated twice by participants themselves during the two-day workshop, generating draft stories and systems maps for each potential future. These stories and systems were subsequently elaborated by Matt Finch in collaboration with ECA to emphasise the most challenging and relevant elements. In this phase, key questions from each workshop scenario were identified for further exploration, and stories were written for each scenario focussed on consumers' changing future relationship to the energy sector.

1.2 How to use these scenarios

The scenarios in this document represent four distinct visions for the future of energy in Australia, looking ahead to 2050. They are not predictions, but contexts crafted to highlight issues which challenge our current strategic thinking. The scenarios have been selected to emphasise the changing role of the consumer, and the ways in which economic or social shifts might impact the way energy is generated, supplied, and consumed.

Each scenario begins with a story - a vision of work and family life in 2050. The story allows us to enter the world and imagine how it would feel to inhabit it. It helps us to see the future as a place Australians will have to live in, not just a point on a graph. Elements in each story highlight the issues at play in the scenario.

The story is followed by a commentary on the key factors within the scenario, and indicators of the future issues which are already emerging in the present.

As you read each scenario, it is a chance to think:

- What challenges and opportunities would exist for the energy sector if this future were coming to pass?
- In which ways is the energy sector already well prepared to cope with such changes, and in which ways would it need to adapt?
- Which potential futures are too uncomfortable for us to think about and why?

Stepping back from the ways we currently envisage Australia's energy future, how could we think differently about what is coming next? And, if we choose to think differently, what new options and opportunities might be revealed to us?

"Our own myopia is the obstacle common to all strategic situations. Being strategic is being less myopic - less shortsighted - than others... Whether is it insight into industry structures and trends, anticipating the actions and reactions of competitors, insight into your own competencies and resources, or stretching your own thinking to cover more of the bases and resist your own biases, being 'strategic' largely means being less myopic than your undeliberative self."

- Richard P. Rumelt, *Good Strategy/Bad Strategy*

2.0 The Scenarios

Each scenario revolves around a middle manager whose work connects to heat, light, and power. Josie is in her early forties, divorced, and lives with her ten-year-old daughter, Hannah.

In each scenario, you'll join Josie and Hannah at their breakfast table, seeing what they eat, hearing what is on the morning news, and considering what awaits both an adult and a schoolchild on a typical day in this version of Australia in 2050.



Scenario 1 - Bundle

What happens if consumers' heat, light, and power needs get bundled with employment or other services?

"Could you just get your homework done, please? We need to leave soon." Josie is watching her coffee get cold as she bustles around the kitchen, trying to get her daughter fed and ready for the school day. It's seven o'clock in the morning in their little suburban house on the Canberra-Belconnen-Gungahlin Districts sprawl.

"Can you just help me spell algorithm, Mum? The homework app won't let us use predictive spelling." Hannah should have finished up her essay on "My Parent's Job" last night, but some things never change.

Josie thinks through how best to explain what she does. She's the manager of an algorithm impact assessment team for Hypermarket, one of Australia's "Big Two" retailers. A generation ago, they were a supermarket chain, but now they are in the everything business. Whatever you need for your home and family, from dog food to home security drones, you can get it from Big H. Josie's work is on the HR side, though: today, Hypermarket provides an increasing range of services for staff bundled in with their pay package, including healthcare, housing, and energy options.

Josie's team approve new algorithms for monitoring staff use of heat, light, and power in their personal as well as their professional lives. "We ensure compliance with regulations, legislation, and the company's ethical guidelines," she tells Hannah, spelling "legislation" for her.

"In the early days," she explains, "when we first brought in the algorithms, they weren't always fair. It turned out they were penalising people based on ethnicity, or religion, or other factors: unfair discrimination. There were these culture wars - oh, you were lucky to miss out on them, Han - but while the politicians were arguing, business got on with the job. We needed people to be happy and healthy enough to do their work, so employers created roles like mine to ensure that we were being fair, or fair enough."

Josie slides a plate of Impossible Mince on toast in front of her daughter. One thing you had to say for Big H and its legacy as a supermarket: staff and their families eat pretty well, even with the global pressures on food supply.

Hannah starts to ask another question, but Josie has a meeting on the holoscreen with her deputy, Ravi.

"Sorry, honey, eat up and I'll be out of the meeting in a moment," she says, then greets Ravi. The team are in final preparation for a meeting that afternoon. Big H are in talks to buy access to a new American AI product which will let them trade energy more efficiently overseas, reducing the cost of their staff power bundles.

Ravi gossips about a battle that their rival, Othermart, are having with staff over their heat, light, and power offer. "It almost makes you miss the old arbitration regime," he says. With machines doing so much of the work these days, a lot of people have fractional part time jobs. The "have nots" increasingly struggle to make up the hours to earn heat, light, and power above the government-mandated UBEA - universal basic energy allowance.

Josie trades gossip and shares a story she heard about the European Union. A friend visited a government office in Sweden; as you entered, you had to give permission to share your personal data about energy consumption so it could be factored into the environmental impact, a fig leaf of consent to surveillance of your heat, light, and power consumption.

Hannah interrupts their conversation to complain about not having the aircon on this morning - but Josie says this is so that they can save some of their Big H energy credits and transfer them to her own retired mother, so that she can afford to have air conditioning on all day.

"Nanna doesn't have the Hypermarket Gold package like us, she's only on Basics," Josie tells Hannah.

Commentary

This scenario imagines a 2050 in which energy consumption is bundled into employment. Variants of this scenario exist where energy is bundled in other ways: for example, on purchasing an electric car, the electricity for the car could be bundled into an agreement with the vehicle manufacturer or dealer. Energy for domestic hot water might come from the supplier of your hot water system.

In this scenario, following the evolution of traditional employment structures and society not ensuring that essential needs were met, employers increasingly started providing services for staff including healthcare, housing, and energy options. With the weakening of the existing conciliation and arbitration regime, the ultimate outcome of the trend towards a gig economy was that employers had to step in to ensure employee wellbeing.

Hand in hand with this transition, corporations took an increasingly dominant role in civic life. Initial experiments in the early 21st century, such as [Google's Waterfront Toronto project](#), progressed alongside increasing urbanisation and the growing political power of major cities versus the nation-state. As firms provided an increasingly comprehensive suite of products, services, and staff benefits, your employer became more important than your government in many ways.

This world also posits advances in computing and machine intelligence which unlock new efficiencies and advancements in energy productivity. Climate change has been successfully addressed and Australians' quality of life remains relatively high. In this world, after unprecedented technological breakthroughs by big corporations, Australians are subject to intense and unrelenting surveillance but their lives are comfortable. Notions of privacy have changed radically in the generation since 2020 and much of what we would consider intrusive is now acceptable.

However, new pressures have also emerged. As energy is bundled into employment alongside other key services, Australians consider the energy offer as part of their career planning and job hunting. Much as Americans today will examine a prospective employer's health insurance scheme, Australians of 2050 look for jobs and career paths which will ensure the best energy outcomes for themselves and their loved ones.

Additionally, in this heavily surveilled big-data world, the "energy rating" of a job candidate may be available much as a credit rating currently is; employers (or their HR algorithms) may sift candidate profiles on the basis of an individual score reflecting their energy choices.

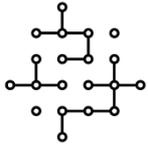
To meet the needs of the unemployed, a Universal Basic Energy Allowance (UBEA) has been bundled into benefits, and superannuation funds similarly bundle energy into pension arrangements for retirees. With guaranteed minimum levels of energy supply, some people are better off than under the current regime, but others struggle.

The bundling of many services into employment contracts implies a world in which personal freedom of movement is also affected: employees may find themselves tied to "company towns", or moved across the country from one company-owned housing estate to another. In some ways, mainstream Australian life resembles the world of today's mining towns.

In this scenario, there's nostalgia for the free and easy days of the early 21st century, which are remembered as a time of liberty and abundance. People love watching shows and movies set in the decadent world of early 2000s Australia: some of the more extravagant, less monitored lifestyle choices now seem as distant to them as old movies where everyone smokes seem to us now.

Questions

- *What signals in the present would indicate that this future was coming to pass?*
- *What other forms of bundling can be imagined?*
- *How could competition and openness be promoted in this future?*
- *Can "big tech" change Australians' relationship to energy? Does the sector underestimate the potential impact of artificial intelligence/machine learning and other breakthroughs?*
- *What are the implications of bundled energy for the 'haves' and 'have nots' of Australia?*



Scenario 2 - Patchwork

Could declining trust see the national energy grid fragment, requiring local action?

"Mum, what's a stranded asset?"

Josie groans. Isn't it too early for questions like these? It's a Wednesday morning in Parkes, New South Wales, and she has a long day ahead of her. "You know, if you just did your homework the night before, breakfast would be a lot more relaxed. What's the assignment?"

"What my mum does for a living.' You always talk about stranded assets so I thought I'd put it in."

"Look, I actually think there's a better way to explain it. I work for the Council's Energy Inclusion Team. My job is to go around all the regional and remote communities and make sure they can get the heat, light, and power that they need."

"Some of that work used to be done by big energy providers, but the energy market changed about twenty years ago and local government stepped in. So, people like me, we give communities advice on running their local grid, on storing energy, and we try to make sure they're safe and getting what they need."

"And what's the 'energy meals on wheels' thing you talk about?"

"Well, for the tiny communities who don't have all the equipment for a local grid, don't have the skills to repair and maintain the infrastructure - we provide kits and batteries. It's a temporary fix, but nobody has to go totally without. Could you eat your breakfast cereal, please?"

Hannah douses her cereal with plant milk and a dusting of sugar. Josie stares into space and mentally plots the journey she'll take today, a 600 kilometre loop out to Hillston to check on their new solar set-up.

Her job is tough, but not the worst she knows of. A woman she went to university with works with the federal government; she's doing comms and community engagement on a special project. Her team are decommissioning a nuclear power plant. Catastrophically unprecedented sea level rises in the 2030s rendered it unusable before it ever got online.

Staring out of the kitchen window, Josie notices the battery installation on her neighbour's house and wonders if she should report it. Those unregulated hookups are illegal, and can even be dangerous, but if you start behaving like the local energy snoop, you won't be making many friends. It's not strictly part of her role and it's not obliged in the council code of conduct, so Josie chooses not to see it when she looks out across the street each morning.

Josie's smart device chirps and distracts her from her thoughts. A reminder pops up: she's supposed to pester her car mechanic today. He hasn't repaired her car's solar panels - they're charging the batteries, but something's wrong and the hookup won't let her transfer power back to the house. Josie's landlord insists it's the car, the mechanic insists it's the house, and in the meantime the family can't benefit. One of the downsides of being out of the cities - the many downsides, Josie thinks - is how hard it is to find people with the skills to fix things when the technology breaks down. She wonders whether she could ask Jim down at the council depot to take a look.

The self-driving school bus swings by their cul-de-sac and sounds its horn for pickup. Hannah is grabbing her bag, and Josie reminds her that it's a black day today - they're on the voluntary sacrifice scheme and the power will be off until 6pm. Josie also checks in with her own mother to make sure she'll be going to the library, which will have an air-conditioned public "cool hall", during the middle of the day. Josie's mother is a little sniffy about the company she keeps there, but Josie reminds her it's better than sweating it out at home.

Commentary

This scenario explores a future in which the existing energy system has fragmented and local authorities have stepped in to meet community needs. By 2050, major infrastructure providers have pulled back from regional areas owing to experiences of stranded assets and focussed their business on major population centres.

In the near future of this world, trust in the National Energy Market (NEM) dwindled. Ongoing policy uncertainty and a troubled economic climate led to insufficient investment in the equipment needed to generate and distribute electricity. The bushfires of the 2020s, leaving communities cut off from power, led to a desire for self-reliance and a recognition that community investment in batteries and solar power may have mitigated these effects.

Some choices, represented here by the nuclear plant, have also had lasting consequences. As a result, local governments have stepped in, and a role has been created for embedded networks carved out from the grid. There is still a rhetoric of "ensuring that the lights stay on across Australia", but in practice this is delivered locally.

Initially, unregulated and unlicensed providers began to meet regional energy needs, expanding from apartment blocks and caravan parks to encompass whole regional communities. Local government authorities, larger and with more devolved responsibility than in 2020, have increasingly taken responsibility for addressing these needs and regulating energy locally. This has led to a patchwork of energy provision across Australia.

Frustrations and protest against the old demand management process have led to new options focussed on consumer needs and choices. Josie, like some other Australian energy consumers, chooses to be rewarded for accepting an interruptible supply. Those who agree to have their power cut off when necessary, within agreed hours, receive a discount on their energy.

In different parts of the patchwork, different regimes reply: some customers opt for a "power saving mode" at certain hours. In this mode, enough power is supplied for lighting and small appliances, but if consumption crosses a certain threshold, a notification is sent from the smart meter to reduce consumption before the power is cut off. In each case, these options are offered as options and customer rewards, rather than penalties. (This could, for example, resemble a future version of Queensland's [Peak Smart](#) initiative).

New pain points have emerged around access to expertise and appliance parts outside of the populous cities and coastal regions. Josie's role in this world is to ensure that even the most neglected communities within her shire are given a minimal level of support. Even for someone in the relatively privileged and comfort of Josie's position, lack of access is a problem when technology breaks down - and while Josie wouldn't make use of an illegal storage device herself, they are relatively commonplace in her world.

Questions

- *What does a system where people and communities have "gone it alone" look like?*
- *What new skills and expertise will be required to manage a more distributed system?*
- *How do we evaluate big investments in major infrastructure?*
- *What opportunities as well as challenges would emerge in a localised Australian energy sector?*



Scenario 3 - Plenty

What if catastrophic climate change frees us to generate abundant wind and solar power?

"What is this, Mum?" Hannah's spoon hovers over her breakfast bowl.

"Kiribath - Sri Lankan coconut rice. It's the new thing, apparently. I saw it in the supermarket and thought you'd like to try it; it's from the Luxury range." Josie really values morning time with her daughter; this moment, when they check in before the day gets going, is her favourite.

"All the way from Sri Lanka?"

"No, silly." Josie is pretty conscious of food miles and she checked the packet when she took it off the shelf. It bore the logo they're using for produce that comes from the new food basket of the Northern Territory. "Aussie grown, from up north."

"It's yum. Can I have some more? Would you like seconds too?"

"I'd better not, I'll only have to burn it off in the gym." Josie missed her chance to go out for her morning run today. If you don't get going before dawn these days, it's too hot to spend much time outside, even here in Melbourne, in the middle of June.

Maybe she could get to the leisure centre that evening, except she wanted to visit her mum, Hannah's grandmother. They're keeping Nanna in overnight for observation: that nagging kidney condition she's had ever since her bouts of heatstroke in the bad old days of the 2030s.

The news is on the screen in the kitchen corner: activists on the coast in little electric motorboats, campaigning against a desalination plant.

Josie sees Hannah watching with interest. "Don't you get into that tinfoil hat stuff," she tells her daughter, "It would be too embarrassing at work." For Josie's colleagues at the Australia Energy Agency, satisfying Australia's thirst with abundant renewable energy is one of their historic triumphs. These days it's the energy exports which consume their attention.

"But Kate at school's big sister says desalination kills fishes, Mum."

"It's nonsense. It's just brine, sweetheart. They eject it into the sea, and the waves churn it up. When I was your age, we were worried about carbon and its impact on the future."

"What did you do about it?"

"Sun, wind, and storage. The middle of Australia got too hot for people to grow much, or live in, so it got given over to solar and wind farms. We invented new lithium batteries - that's where brine really matters, to get the lithium - and we had almost more clean energy than we knew what to do with."

"So we used it to run the desalination plants, and we supply energy to Asia through the Sun Cables."

Josie notices that another news item has come on. This one covers the arrival in Canberra of an Asian trade delegation. She wonders if the new hydrogen export opportunities will be part of the discussion. It might be relevant for work, but she keeps talking with Josie and mentally bookmarks it to return to later. She has the luxury of quality time with her daughter, and she intends to enjoy it.

Commentary

In this scenario, abundant energy is produced by large scale renewables on agricultural land rendered unproductive for farming by climate change.

The Australia of this 2050 has used the desertification and depopulation of its centre to develop the world's largest solar and wind farms. The north of the country now offers viable farming and as a result has become the national food basket, and also a supplier of biofuels.

As climate change drove people towards the coasts and cities, governments increasingly experimented with using inland regions for energy generation. There was an increase in fracking in the 2020s and 30s but this was superseded by a focus on green power.

Storage technology has also leapt forward, with a move to next-generation lithium-air and lithium-sulphur batteries. The green debate has largely been resolved in this Australian future and environmental activism now consists of fringe concerns such as the impact of desalination waste on sea life.

Australia leads the world in transmission technologies, especially in terms of resilience against severe climactic events, and lines run from the red centre to the Australian coasts, but also overseas. After the establishment of the Sun Cable from Darwin to Singapore, there was an increasing focus on energy export.

This presents its own issues, as in this future the world trade order has largely broken down, to be replaced by bilateral and regional models. [As predicted by some commentators](#), the breakdown of the WTO has seen a return to unpredictable and contentious systems of global trade. However, Australia has secured its position regionally by supplying its abundant energy to the countries of the Asia Pacific region.

Even in this age of plenty, Australians complain about domestic energy prices, which are high because of the export price. This is an extension of the experience with Queensland's development of liquefied natural gas export product, its impact on domestic energy prices, and the resulting Australian Domestic Gas Reservation policy.

Questions

- *What contingency planning is taking place for climate change? What opportunities, as well as threats, could emerge from the possible climate outcomes?*
- *What would need to change in order for the existing energy system to achieve the scenario set out here?*
- *What are the issues, risks, opportunities, and technological requirements needed to achieve this kind of energy export within a generation? What anticipatory work would need to be done to rehearse for these possibilities?*
- *Would there be an energy reservation policy for Australian consumers?*
- *Would there be impact on access to energy technology manufactured overseas, in a regionalised or bilateral trading system?*



Scenario 4 - Rescue

What if a new movement drives transition to cheap renewable energy whilst compensating incumbents?

"Can I have some of that cake for breakfast, Mum?"

Josie bats Hannah's hand away from the cake tin. "No - have some fruit, it's good for you."

"Is it someone's birthday at work? What are you celebrating?"

"It's no one's birthday. We're celebrating, but it's a bit complicated. Here, have an apple."

"Tell me! I'm a big kid, I'll understand. What are you celebrating?"

"Well, we just finished paying off the transition to renewable energy."

"Oh. Actually...I don't understand."

"Well, when I was your age, we had these terrible bushfires that made news around the world. And it made everyone in Australia realise that we really had to do something about the environment. No one else was going to wave a magic wand and save us from climate change; we had to act for ourselves."

Josie pauses to check the rostering device on her app. She's allocating morning shifts for Climate Corps volunteers across the region, and the early risers are checking in to see where they're needed.

"Back then, we had volunteer firefighters, the same way everyone does citizen climate service now. The bushfires were so bad, people started to crowdfund for firefighters' supplies, and to send help to affected areas. The movement just snowballed; it kept getting stronger. People volunteered more and more, they donated their own time and money, they put pressure on governments for big change."

Politicians recognised that will to change, and looked at ways to compensate the old energy operators, so that we could afford a swift change to green energy. They also invested in new technologies to support clean manufacturing. And people around the world saw what was happening, and they started to pitch in too. They realised that if we didn't pull together, the future would be hell."

Her device is still pinging; she swipes at the screen, looking at the map of work that needs doing and allocating jobs for the various crews who report to her. Josie loves her prestigious role as a volunteer coordinator in the Climate Resilience Corps, but with the privilege comes a great deal of responsibility.

"So what's the cake for, Mum?"

"So in the 2020s, Australia made the decision to compensate the old operators of the energy grid, so that we could afford the move to renewables. It cost a lot, more than you could ever crowdfund, and we've been making repayments on it ever since. We finally paid off the Transition Debt this week - so we're having a special morning tea at the Climate Corps."

"When you did what you did, you were thinking of the future. You went to clean energy for the next generation, right?"

"Well, yes, darling. We finally recognised we had to do something for ourselves, but also for the long term."

"Well, I am the next generation and I'm here right now -- so I think I deserve a piece of that cake!"

Commentary

This scenario explores a future that, in our workshop, seemed "too bright to hope for" - where cheap renewable energy was made possible without having to compensate incumbents for stranded assets associated with transition. In the scenario which has resulted, a new grassroots movement came together to address the impossible-to-ignore impact of climate change, hand-in-hand with a turn towards volunteering and community action. This movement provoked a national change of heart, leading politicians to explore ways to pay for a hastened transition to clean, green energy.

Josie works for a Climate Resilience Corps which has evolved from Australia's volunteer firefighter tradition into a non-profit sustainability movement. The Corps uses next generation social media and crowdfunding technology to harness community efforts. Australians in this future live in what the German sociologist Mathias Greffrath calls a "three-shift society", where they spend a third of their time in paid work, a third in voluntary activities, and a third on their own needs. Josie is unusual in that she holds a paid "full-time" role supervising the volunteer efforts of other Australians. Volunteer work ranges from firefighting and sustainability projects to community education and support for climate refugees arriving from the Pacific Islands.

In this future, the social contract has been reshaped by the unprecedented demands of climate change. Australians are more energy literate, better informed about sustainability, and more willing to speak up on energy issues. National pride is entwined with broad environmental awareness, and the 30th anniversary of the 2019-2020 bushfires is commemorated each year with solemnity.

Climate issues can't solely be addressed on a national basis, so even though this change has come about from the Australian grassroots, organisations like the Climate Corps collaborate with peer movements overseas. Josie's organisation is the Australian affiliate for a global Climate Action Network of governments, non-profits, businesses, philanthropists, and grassroots movements. They channel international, government, and crowdsourced funds to achieve sustainability and survivability outcomes in their region.

Their efforts have, by 2050, successfully rolled out cheap, reliable, renewable energy across all of Australia. Other branches of the Climate Corps manage globally significant national resources such as Australia's national seed bank; each nation holds these as part of the public agriculture infrastructure, with nonprofits collaborating alongside governments to deliver these services globally.

In this scenario, the Climate Action Network of 2050 is designing a 20-year strategic plan to achieve a Global Renewable Economy by 2070 - with water supplies secure in the long term, farmland managed sustainably, and the essential needs of humanity to be met inexhaustibly by renewable sources.

Debates that once took place between members of the UN now occur in this new forum, with new actors and new global values. The network coordinates the international response to issues like the melting of Himalayan ice or the possibility of inducing "global dimming" via atmospheric sulphate particles as a climate change mitigation strategy. In a new world order focussed on sustainability and the environment, Australia's informed and dedicated citizenry is a beacon and a role model.

Questions

- *What effect will 2020's environmental movement have on Australian consumers, their attitudes to energy, the politicians they are willing to support, and their overall willingness to take responsibility & inform themselves about energy choices?*
- *If a new actor led the transition to cheap renewables by compensating incumbents, what values would drive such an actor? What would be expected in return?*

3.0 What does this mean for Australia's energy sector?

Concluding comments by Rosemary Sinclair AM, CEO, Energy Consumer Australia

Energy Consumers Australia was established by the Council of Australian Governments (COAG) Energy Council in 2015 as the national voice for residential and small business energy consumers.

Our mandate is to work to promote the long-term interests of energy consumers with respect to price, quality, safety, reliability and security of supply of supply of energy services.

Based on what consumers have been telling us over four years through our Consumer Experience research, the Energy Consumer Sentiment Survey and more recently what they think about the role of energy in their lives and businesses and their expectations for future energy services, it is our strong view that meeting expectations for more affordable and innovative services for households and small business customers requires structured long-term thinking, particularly in a time of transition in technology, consumer behavior and market design.

We commissioned Matt Finch of mechanicaldolphins to work with us to develop a set of consumer-focussed scenarios for 2050, to road-test a new methodology and stimulate a wider discussion about the future. The scenarios that we've developed with Matt Finch, informed by the contributions of consumer advocates and other stakeholders, tell stories about the future that everyone can engage with.

In our [Energy Consumer Sentiment Survey](#) and our consumer expectations research, consumers are telling us that they want cheaper, simpler, smarter and cleaner energy. Consumers tell us they are uncertain about the future and want to see governments and the sector planning for the long term. And consumers want their voice to be heard at the table during these discussions.

How we think about the long-term future of energy services needs to move beyond the parameters of the physical system and the current policy framework. Our thinking needs to consider the world people will be living in and what their lives will look like over the longer term – that is, how will we consume heat, light and power in the future?

At a time when we are all grappling with uncertainty, we need to find ways to prepare for change and to be resilient against shocks. We need to think about future possibilities that include how consumer and community values, expectations and preferences will drive outcomes.

We don't see these scenarios in this report as predictions based on the past, nor as pictures of preferred futures, rather we see them as thought provoking narratives which guide us to consider a broader range of possible responses and plans.

Where to from here?

We want to work with the energy sector to change the way we think and talk about the priorities and interests of consumers and the innovation and reform needed to meet their expectations. From now, we're looking for ways of working that will build a future where together we - sector and consumers - create and share value in the long-term interests of consumers of energy services.