



eMission Possible Plan

Our pathway to net zero

Version 2 December 2024

Let's connect



@iconwater



@iconwater



Icon-Water



We acknowledge the traditional custodians of the Canberra region, the Ngunnawal people and also recognise other people or families with connection to the ACT and region. We pay our respects to their Elders – past, present and emerging.

We recognise and value their continuing culture and the contribution they make to the life of the city and the region.

We also acknowledge the First Peoples of the broader region in which we live and work.

As a custodian of our local water cycle, we are committed to respect and care for Country and recognise our dependence on nature in providing essential services for the community.

Foreword

A message from our Managing Director

With climate change occurring harder and faster than many anticipated, the impacts of climate change pose a very real threat to our environment and the essential services we provide. Icon Water has an important role to play as the ACT region's water and sewerage utility. We understand the urgency to act and the need to accelerate our emissions reduction. This is a critical decade for the environment and is an emergency we must address.

Climate has long been a factor in Icon Water's planning – we have been tackling emissions reduction since the late 1990s through greenhouse gas emission and energy reduction strategies, and through our circular economy practices. In 2020, we publicly committed to achieving a net zero target by 2045. This eMission Possible plan, our second version, maps out our pathway to achieve our net zero goal, bringing with it significant business, economic and environmental opportunities. This plan complements our *Climate Change Adaptation Plan – sustaining resilience*, which strengthens our resilience to the climate emergency we face.



“As a community, we have an obligation to future generations and ourselves as custodians of one of our planet’s natural resources, and I believe our legacy as an industry will ultimately be measured by our sense of urgency in protecting it.”

Ray Hezkial, Managing Director, Icon Water



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Executive summary

This plan is our roadmap for how we will achieve net zero greenhouse gas emissions by 2045. Our target implies having zero carbon impact on the environment due to our activities by 2045. This supports:

- the ACT Government target to reach net zero by 2045
- the current climate emergency to limit the threshold of global warming to below 2°C by 2100 as outlined in the 2021 Intergovernmental Panel on Climate Change (IPCC) Sixth Assessment Report.

We have taken a four step, carbon accounting approach in developing our net zero pathway (see Figure 1).

We aim to manage our carbon risk (the financial and operational impacts we may face due to climate change and carbon regulations) by making cost effective, decarbonising business decisions that will improve our resilience to carbon price signals, align with climate disclosure reporting and limit our contribution to climate change.

We intend to develop innovative trials and demonstration projects to encourage co-investment (e.g. in biochar) with our peer water utilities, government and the business community. We understand that our efforts need to align with the community expectation to be a climate-conscious, resilient and valued partner in the community.

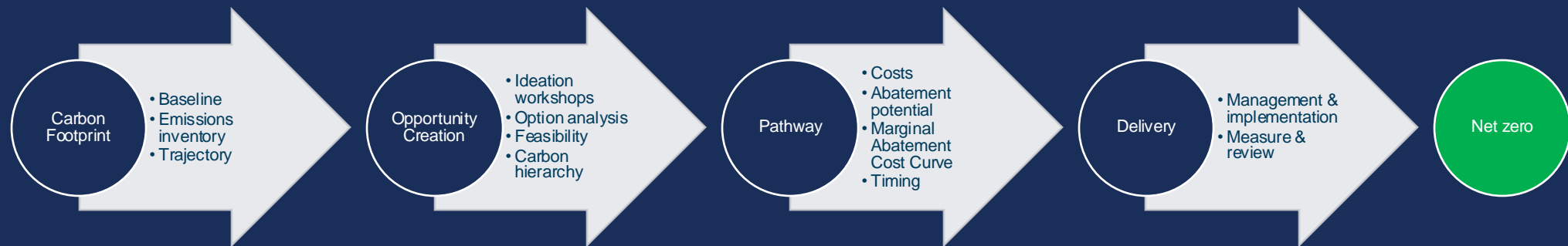


Figure 1: Net zero pathway

Executive summary

Our focus is on providing a value-based net zero pathway that considers the technical, operational and financial feasibility of abatement (reduction) options available to Icon Water.

We have selected opportunities and technologies that serve our business needs, consider our licence requirements, accelerate our emissions reduction and allow us to continue to provide high quality water and wastewater treatment. Where possible, we have included opportunities that would be required for other business purposes and align with critical infrastructure needs.

Sufficient offsets have also been included, using existing and new carbon plantings to manage residual emissions and ensure we maintain our net zero target beyond 2045.

This version features scope 1, 2 and 3 emissions, and a maturity pathway to help us improve our understanding and drive mitigation actions over time.



1. Introduction



1.1 Our achievements so far

We have been actively tackling **emissions reduction** since the late 1990s, through the delivery of our spearhead carbon-neutral Water Security Major Projects in the early 2000s, our energy plans commencing in the late 2010s and our first eMission Possible Plan in the early 2020s.

Since 2019 we have also focussed on **adapting our operations** to climate change as a means of managing the physical risks associated with its impacts. We have also had a strong emphasis on resource recovery since 2017. We recognise the connection between climate change mitigation and resource recovery to drive a low-carbon circular economy, however our circular economy activities are addressed separately.

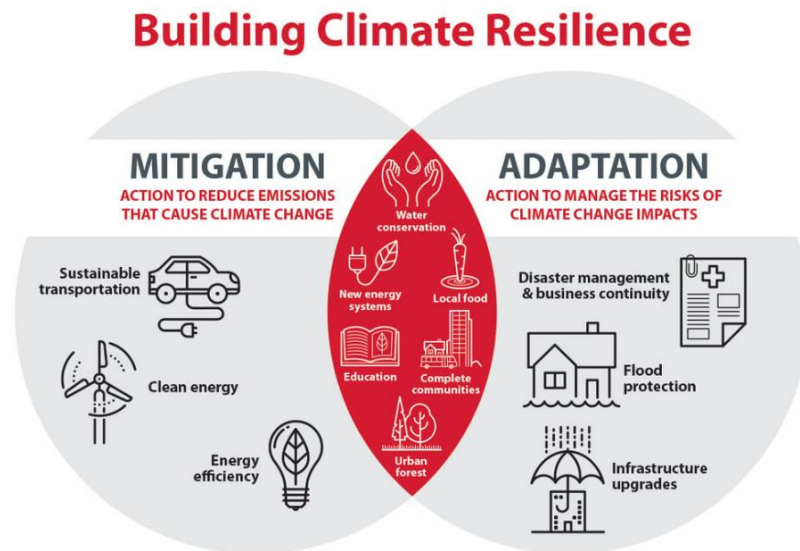


Figure 2: Mitigation and adaptation
Source: Calgary Climate Resilience Strategy (2018)

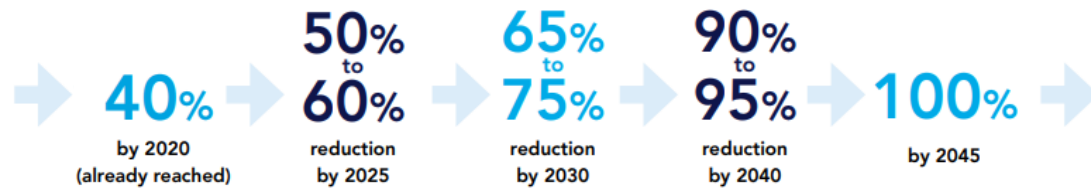
Through our plans we have:

- introduced zero emission vehicles and renewable energy initiatives including mini hydro turbines and solar arrays at various locations with 3.9 megawatt capacity
- switched fuels at our main wastewater treatment plant to a lower carbon alternative
- investigated abatement opportunities including the feasibility of installing floating solar panels and capturing carbon by producing biochar from biosolids
- established forestry offsets at Tullamore, generating Australian Carbon Credit Units (ACCUs)
- continued to incorporate emission reduction considerations into all capital works projects
- delivered waste reduction initiatives
- developed our energy and emissions reporting system.

1.2 Target for net zero

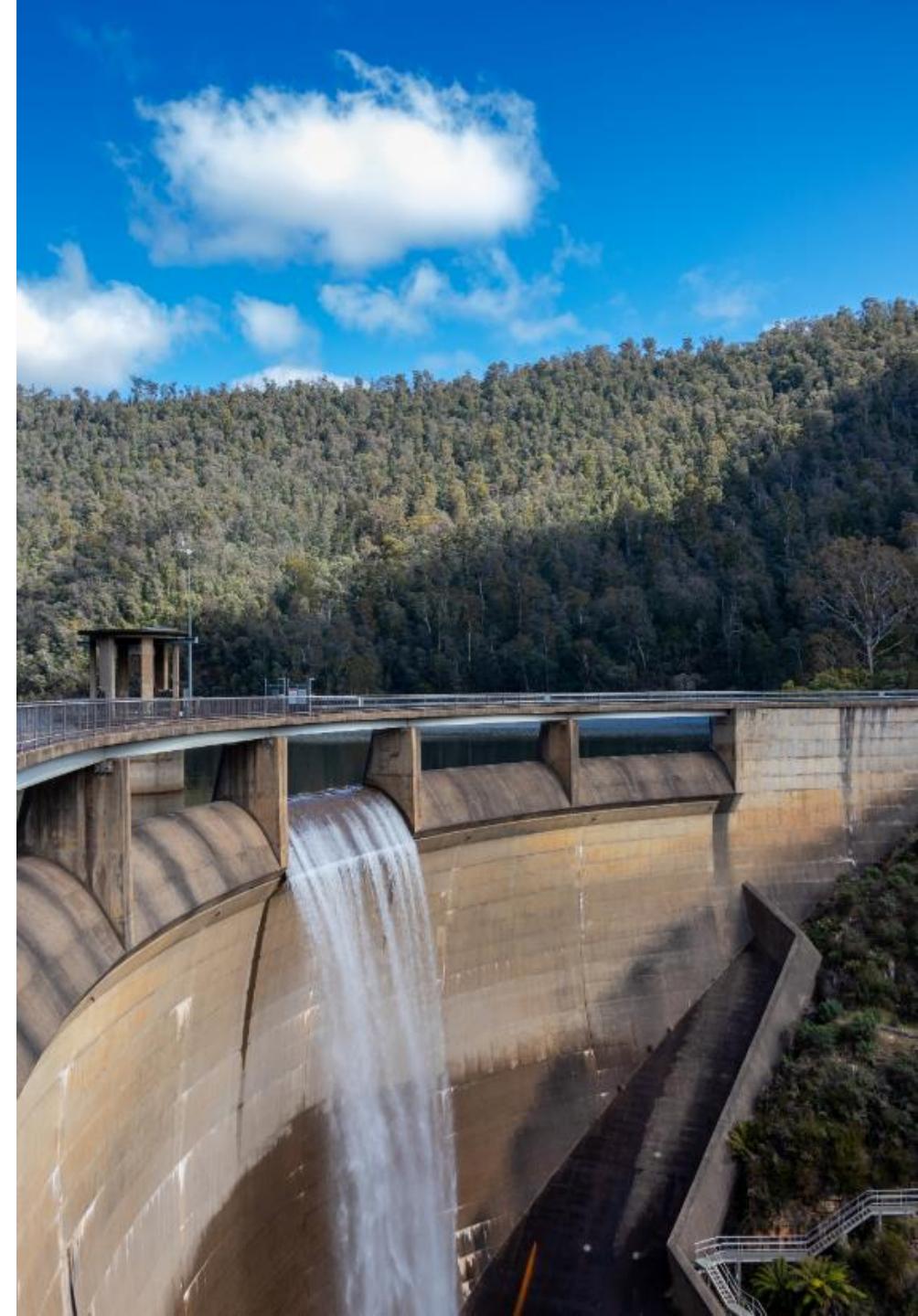
There is an important distinction between the terms 'net zero' and 'carbon neutral'. An organisation can be carbon neutral simply by offsetting the entirety of its emissions and remain carbon neutral while its emissions are increasing. Net zero requires action to reduce emissions as far as possible and offset only residual emissions.

We have aligned with the ACT Government target of net zero by 2045 based on 1990 emission levels for our scope 1 and scope 2 emissions (see next page for definitions) and with the ACT interim targets:



We are on track to achieve our 2025 target and are continuously reviewing our progress towards these horizons to identify opportunities for improvement.

We have not yet set a target for scope 3 emissions, but are preparing for future requirements to do so and will work to influence emission reductions where possible.



1.3 Emission scopes

Carbon emissions refer to the release of six greenhouse gases that contribute to the greenhouse effect responsible for climate change.

These emissions are generally divided into scope 1, scope 2 and scope 3 emissions:

- **Scope 1** emissions (also called direct emissions) are produced as a direct result of an activity on-site. Important scope 1 emissions for Icon Water include nitrous oxide and methane emissions generated from the biological treatment at our wastewater treatment plants.
- **Scope 2** emissions (also called indirect emissions) are associated with the use of fossil-fuel based electricity.
- **Scope 3** emissions relate to the upstream and downstream effects of an organisation's activities e.g. embodied emissions in goods used by Icon Water or business travel emissions.

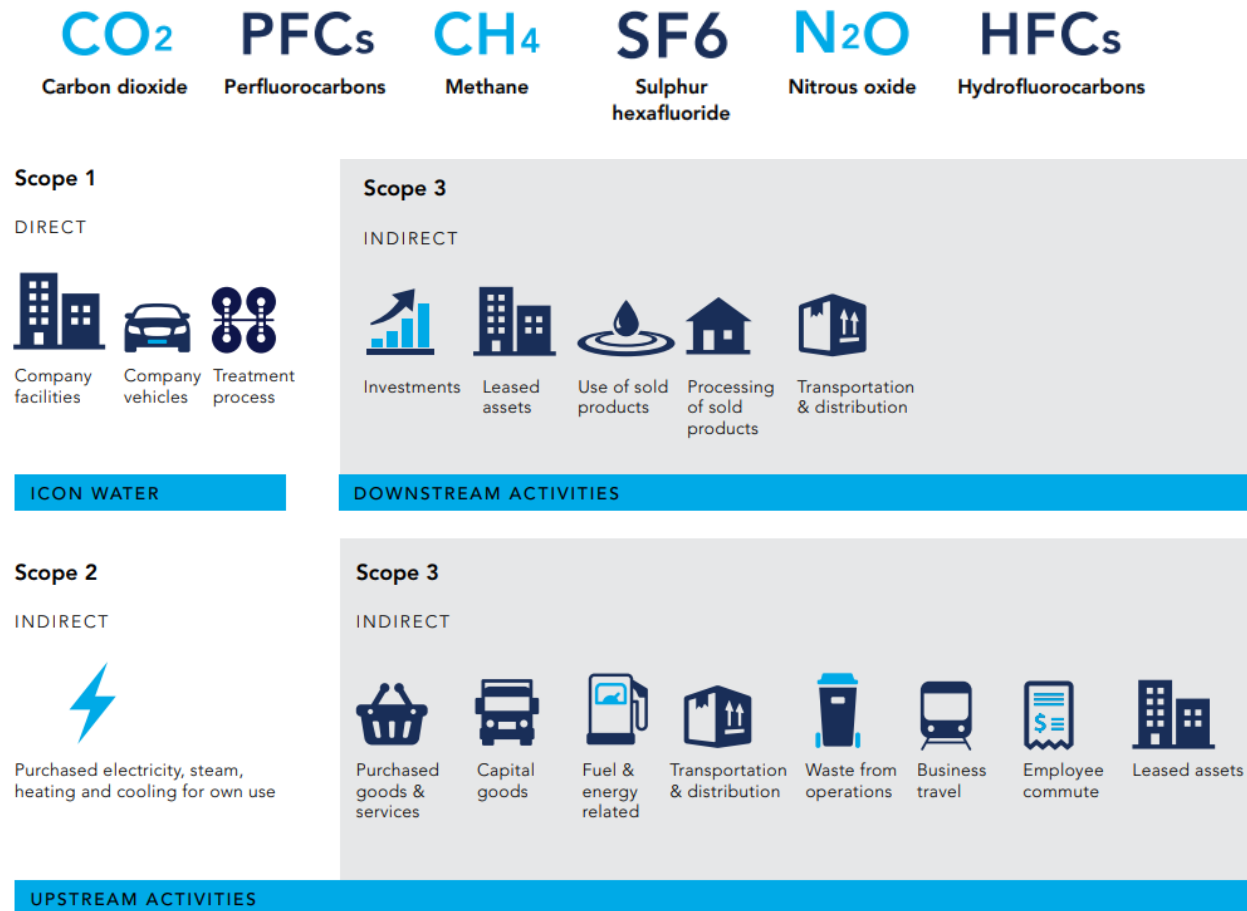


Figure 3: Overview of emission scopes across the value chain
Source: Adapted from infographic from Plan A Academy

1.4 Objective and principles

The approach we have adopted helps us realise our objective and is based on a foundation of principles listed below:

Objective

Meet our commitment to net zero by 2045 delivering carbon mitigation in accordance with interim targets to limit global warming to less than 2°C consistent with the emission reduction hierarchy.

Principles

Risk-based



Ensuring the risks of each mitigation action are compared with the risks of not taking action and committing to further corrective action if mitigation is not achieved.

Financial sustainability



No regrets investment focusing on value for money to ensure our spending is prudent, efficient and timely and includes carbon externalities.

Streamlining and simplification



Utilising existing business processes and aligning action with our strategic planning, asset base and capital works program as well as meeting government targets that align with scientific consensus and support international goals.

Data, science and local knowledge driving decision-making



Measuring carbon and harnessing trusted data, scientific evidence and First Nations people and other local knowledge to drive evidence-based decision-making.

Active collaboration



Involving internal stakeholders, Board directors and shareholders and partnering with Water Services Association of Australia (WSAA), WaterRA, academia, and peer utilities to share effort, risk, cost, trials and outcomes.

Meeting expectations



Action is consistent with customer feedback, government expectations and performance is credible and transparent.

1.5 Emission reduction hierarchy

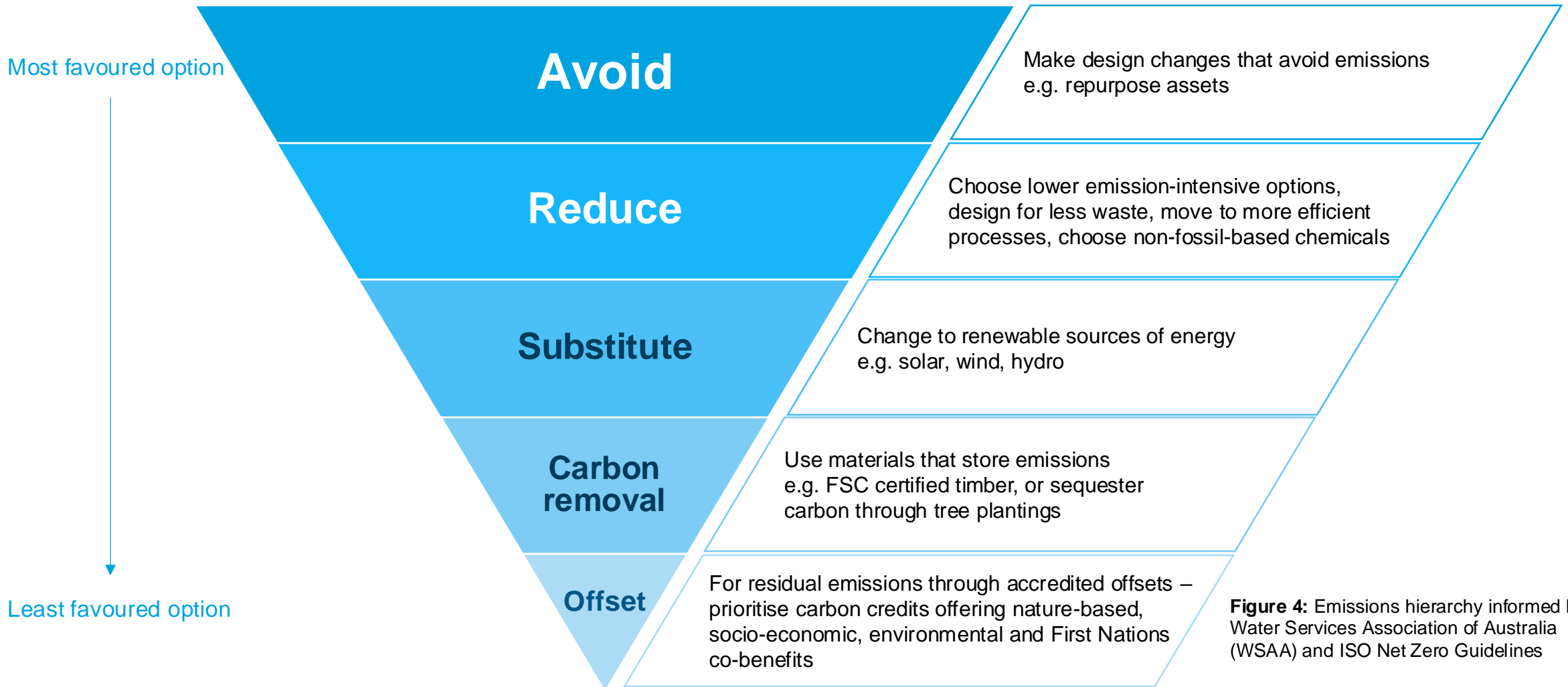


Figure 4: Emissions hierarchy informed by Water Services Association of Australia (WSAA) and ISO Net Zero Guidelines

1.6 Business drivers and benefits

Our commitment to tackling climate change can be seen in our public [Sustainability and Environment Policy](#), our [Climate Change Adaptation Plan](#) and corporate [Business Strategy](#). Climate change resilience and emission mitigation is also integrated throughout our internal strategies, plans, processes and operations (a result of our original adaptation and mitigation plans).

With this plan, we aim to address the following drivers:

Social drivers

By taking local leadership in addressing climate change as expected by our community, shareholders and employees, we will:

- demonstrate our commitment to United Nations Sustainable Development Goal 13 – Climate Action, and action to local, national and international climate targets
- improve our reputation as an employer of choice
- send a message to our supply chain of our commitment to net zero.

Financial drivers

We will collaborate through innovative trials and demonstration projects to encourage co-investment and shared funding with other water utilities, the ACT Government and business community.

Consistent with the carbon hierarchy, we will incorporate drivers for low-carbon optioneering when making future investment decisions and optimise use of our carbon credits.

This will support our sustainability reporting and climate-related financial disclosure obligations.

Having review points and interim targets will provide greater control over how we are tracking to achieve our net zero goal.



1.6 Business drivers and benefits (cont.)

Environmental drivers

Implementing this plan will reduce our carbon emissions and contribute to climate change outcomes. This will ultimately benefit the flow and quality of our water supply, which is entirely climate-dependent and reliant on natural ecosystem services relating to rainfall and runoff in our local catchments.

We will also continue to rehabilitate land through our existing carbon plantation forests in Tullamore in line with the Australian Carbon Credit Unit (ACCU) Scheme.

Enterprise risks

Integrating this plan across our business helps address our top-level enterprise-wide climate change risk by enabling us to keep on track to meet our net zero commitments.

This plan helps us manage our carbon transition risk and is expected to play a part in reducing our vulnerability to a climate we are unable to fully adapt to. It encourages us to make cost effective,

decarbonising business decisions.

Enterprise risk

Risk: Icon Water is not meeting its greenhouse gas emission interval targets and limiting its contribution to climate change



2. Context



2.1 Global challenge

Global emissions continue to rise despite action to decarbonise across many sectors as documented in the December 2023 report by the UN Environment Program (UNEP) – [The Emissions Gap Report 2023: Broken Record – Temperatures hit new highs, yet world fails to cut emissions \(again\)](#).

To restrict warming to temperatures consistent with the Paris Agreement, **predicted 2030** global greenhouse gas emissions need to be cut by 28 per cent by 2030 to achieve a 2°C pathway and 42 per cent by 2030 for a 1.5°C pathway.

This is reiterated in a [report](#) from Australia's Climate Targets Panel (an independent group of Australia's most senior climate scientists and policymakers) in January 2021 – to limit global warming to well below 2°C, net-zero emissions need to be reached by 2045. To be consistent with the Paris Agreement goal of limiting global warming to 1.5°C, **net-zero emissions need to be reached by 2035**.

In 2023, the Intergovernmental Panel on Climate Change (IPCC) released the *Climate Change 2023 Synthesis Report*, which

highlighted that unless stronger global commitments are made, the world is on track to reach temperature increases of upwards of 3°C by 2100 (assuming an intermediate pathway). Any further delay in action on adaptation and mitigation will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all.

It is possible with rapid and far-reaching transitions across all sectors and systems that deep and sustained emission reductions can be achieved.



2.2 Global temperatures

In 2024, the European Union's Copernicus Climate Change Service released data confirming the average global temperature reached 1.48°C above pre-industrial averages – the highest in reported history. This surpassed the previous record in 2016 by 0.16°C and falls just shy of the 1.5°C target set by the Paris Agreement in 2015. In December 2023, the same organisation confirmed the global temperature has reached 1.78°C above pre-industrial monthly averages.

Rapid mitigation is needed.

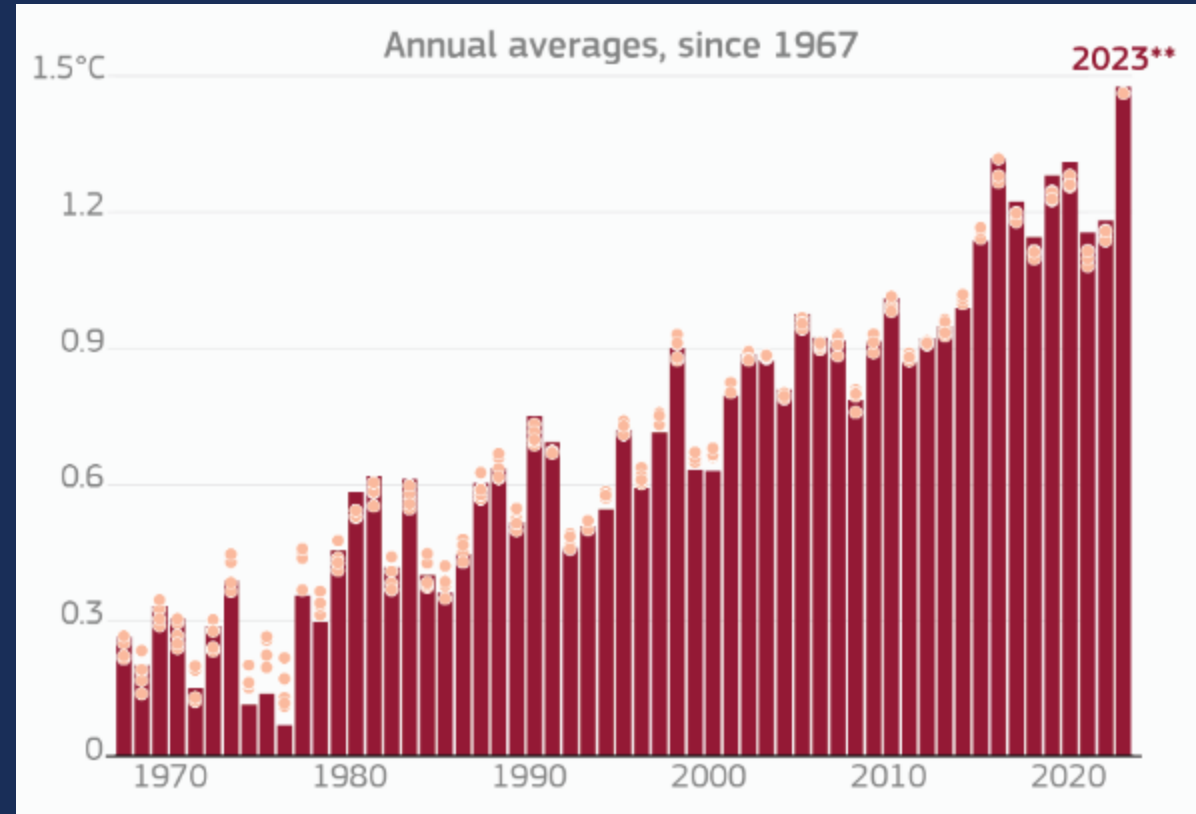


Figure 5: Global surface temperature increase above pre-industrial levels (1850-1900) Source: *Copernicus Global Climate Highlights 2023*

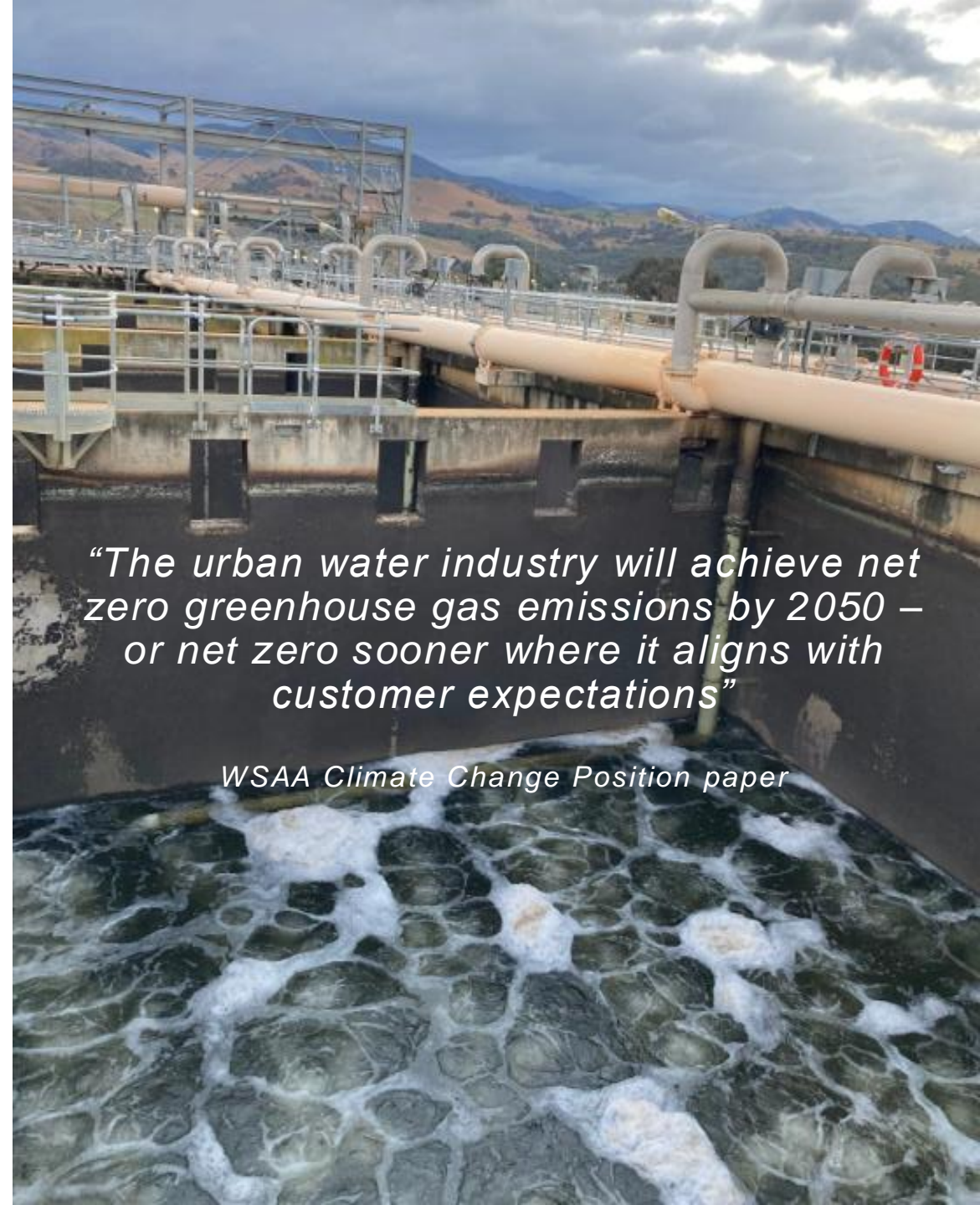
2.3 Policy

Shortly before the United Nations Climate Change Conference (COP26) in late 2021, the Australian Government announced a target of net zero emissions by 2050. In September 2024, Australia passed legislation that requires large Australian corporations to disclose climate-related financial information required to manage transition and physical risks and opportunities, based on 1.5°C and upwards of 2.5°C futures.

The importance of action to achieve net zero is also echoed through the ACT Government and across the water industry.

In May 2019, ACT was the first government in Australia to declare a climate emergency. It outlined its commitment to climate change mitigation and adaptation through the *ACT Climate Change Strategy 2019–2025*, and achieved **100% renewable electricity in the ACT from October 2019** which has significantly reduced our overall carbon footprint.

The Water Services Association of Australia (WSAA) adopted a Climate Change Position in March 2021 outlining the industry's plan to achieve net zero in line with IPCC's goal of keeping global temperatures to well below 2°C by 2100.



“The urban water industry will achieve net zero greenhouse gas emissions by 2050 – or net zero sooner where it aligns with customer expectations”

WSAA Climate Change Position paper

2.4 Economic view

In 2023, economists* world-wide ranked climate change mitigation and adaptation failure as the top two most critical threats to the world over the long term (10 years), with the highest potential to severely damage societies, economies and the planet (*World Economic Forum Global Risks report 2023*). Military strategists also see climate change as a major risk to security and stability (*Australian Army Journal 2024*).

The need for action is reiterated through the insurance industry with the establishment of the UN-led and convened Forum for Insurance Transition to Net Zero (FIT) committing to accelerate climate action and transition the insurance industry and underwriting portfolios to net zero.



Figure 6: Top economic risks, *World Economic Forum Global Risks report 2023*

2.5 Community sentiment

There is increased public support for climate action.

- **76% of ACT respondents** in 2023 believe climate change is human-induced (the highest in Australia by state and territory)*
- Over **70% of Australians** say that they are concerned about climate change and its impacts, including its potential to compound existing cost-of-living pressures**
- **84% of Australian** respondents say they are concerned or anxious about climate disruption, with one in four people admitting the threat of climate change is so worrying it prevents them from making long-term life plans such as having children, according to a national Veolia survey.

Public sentiment is increasing as we continue to experience climate impacts.

There is also a trend towards more polarisation in the community on this topic. In a key national study* almost 20% of ACT respondents indicated that they did **not** believe climate change is human induced while in the same study 30% stated that reducing carbon emissions as quickly as possible was more important than keeping water bills as low as possible.

*WSAA and Insync 2023 National Customer Perceptions Study

** Climate of the Nation 2023

On average, 80% of respondents in 50 countries from the 2023 Global Trends survey agreed:

“We are heading towards an environmental disaster unless we change our habits quickly.”

The results indicate that people in developing economies are more concerned about environmental degradation, including the effects of climate change.

“Great to hear that initiatives could be undertaken to accelerate – this was a **very hot topic** during the discussion and important to the community.”

“I could not love this enough. **Speed, speed, speed.**”

“I would like to see **this happen ASAP**, but am happy to see that Icon are considering options to get there faster.”

“Getting to zero net emissions ASAP is for the best **and I feel Icon should do everything possible to make that happen**”.

Customer comments during Icon Water's 2021 Talking Water and Wastewater consultation

3. Approach



3.1 Carbon accounting

We have taken a four-phased carbon accounting approach in this plan which has enabled us to:

- understand our emissions footprint and identify where the most significant emissions are generated
- assess the most feasible and cost-effective abatement opportunities for Icon Water that follow the carbon hierarchy
- frame up our net zero pathway.

The following pages outline these steps.

This approach has been used to measure, monitor and manage our scope 1, scope 2 and scope 3 emissions. We have developed a maturity pathway for our scope 3 emissions highlighting the need to collaborate with our suppliers on the decarbonisation of their supply chains.

We intend to communicate our successes on our net zero journey to our people, our shareholders and partners, and more broadly across the industry, market and to our customers as we progress.

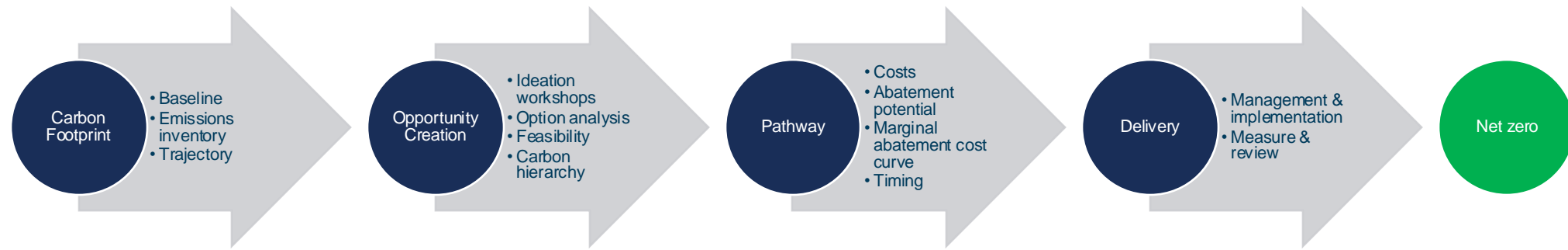


Figure 1: Net zero pathway (identical to page 5)

3.2 Carbon footprint for scopes 1 and 2

We complete emissions inventories each year and in 2022–23 we generated 17,175 tonnes of carbon dioxide equivalent (tCO₂e)*. This represents a little over one per cent of the ACT’s total emissions. A significant proportion of these, around three quarters, are fugitive emissions (nitrous oxide and methane) generated through our wastewater treatment process.

**For scopes 1 and 2 only, applying the pre-2021 NGERs equation for nitrous oxide for consistency across our reporting, and accounting for 100% renewable electricity in the ACT. Refrigerant and dam emissions are excluded in accordance with NGERs methodology. In the annual report, stationary and transport fuels include a scope 3 factor. The additional factor is not included here.*

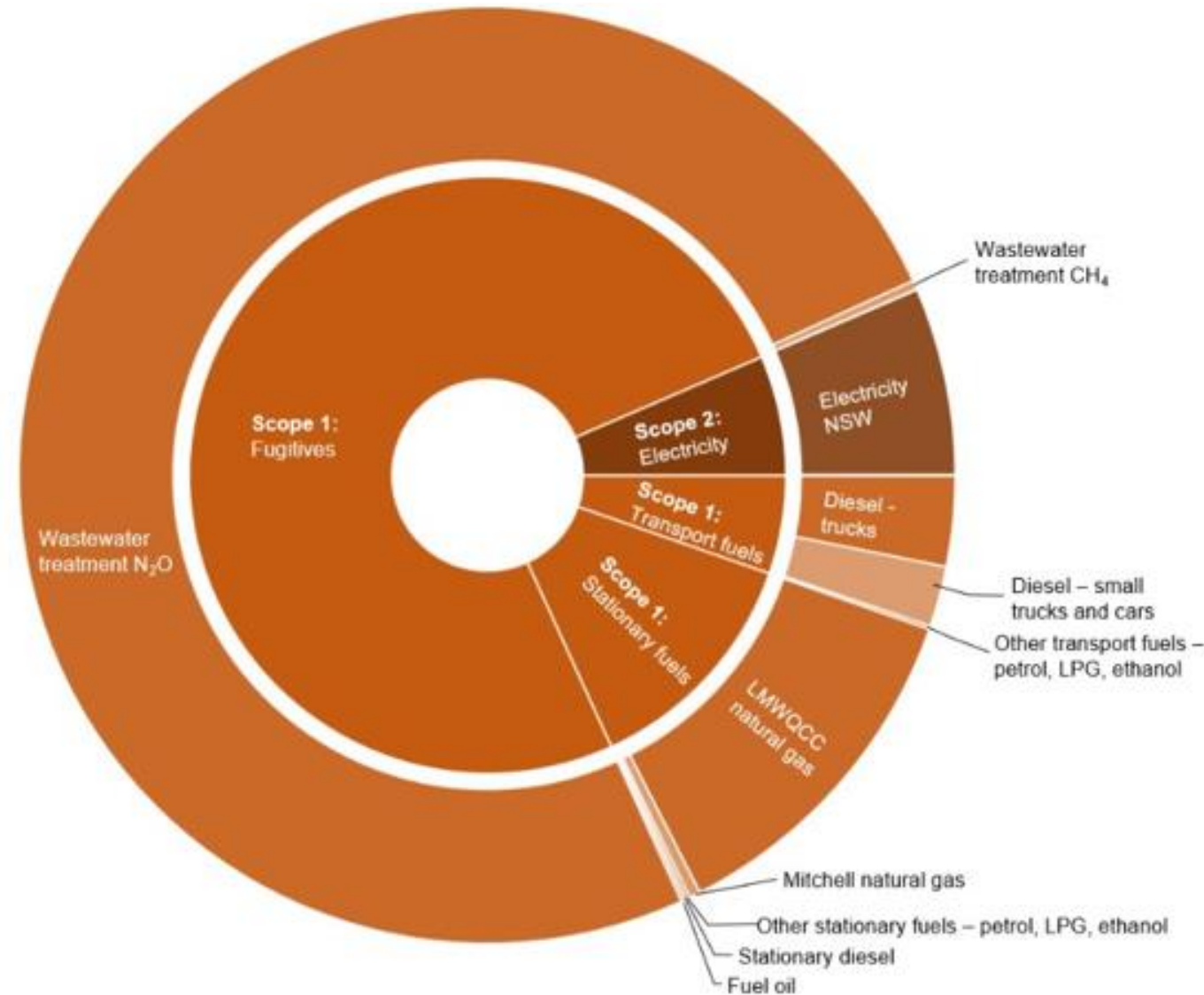


Figure 7: Icon Water's emission profile 2022–23

3.3 Scope 3 baseline

We estimated our scope 3 emissions against the 15 categories within Greenhouse Gas (GHG) Protocol guidance. For both downstream and upstream emissions, boundary setting involved workshops with stakeholders across the business to identify relevant categories, inclusions, assumptions and data.

See Table 1 for category descriptions, boundary decisions (inclusions and exclusions) and other relevant notes.



Table 1: Categories of scope 3 emissions based on GHG Protocol

	Category	Description/Example/Boundary
Upstream	1. Purchased goods and services	Extraction, production, and transportation of goods and services not otherwise included in Categories 2–8
	2. Capital goods	Extraction, production and transportation of capital goods
	3. Fuel- and energy-related activities	Includes extraction, production and transportation of fuels used in Icon Water vehicles
	4. Upstream transportation and distribution	Includes transport of chemicals to site
	5. Waste generated in operations	Includes transport and treatment of waste to landfill
	6. Business travel	Transport of employees for business activities when not using Icon Water vehicles
	7. Employee commuting	Includes fuel used in employee-owned vehicles used to drive to work
	8. Upstream leased assets	Operation of leased assets when emissions not reported under scope 1 or scope 2
Downstream	9. Downstream transportation and distribution	Transportation and distribution of sold products. Water distribution in Queanbeyan included here. Agriash also here as being treated as a sold product
	10. Processing of sold products	Could include emissions from breweries, cafes, and other businesses that process then sell water in their product. Considered to be out of boundary at this stage
	11. Use of sold products	Could include emissions from heating of water by households. This is outside the minimum boundary under the GHG Protocol
	12. End of life treatment of sold products	Queanbeyan sewage treatment included here
	13. Downstream leased assets	Leased assets such as Lithgow Street and telecoms on Icon Water network sites. The former is zero in the baseline year. The latter is not included at this stage
	14. Franchises	Excluded as Icon Water does not have any franchises
	15. Investments	50% of scope 1 and 2 emissions from the joint venture

3.3 Scope 3 baseline

Our scope 3 emissions for 2022–23 were calculated to be around 46,700 tCO₂e, based on assumptions or actual data when available. Some downstream categories are considered outside the boundary and, therefore, noted as excluded.

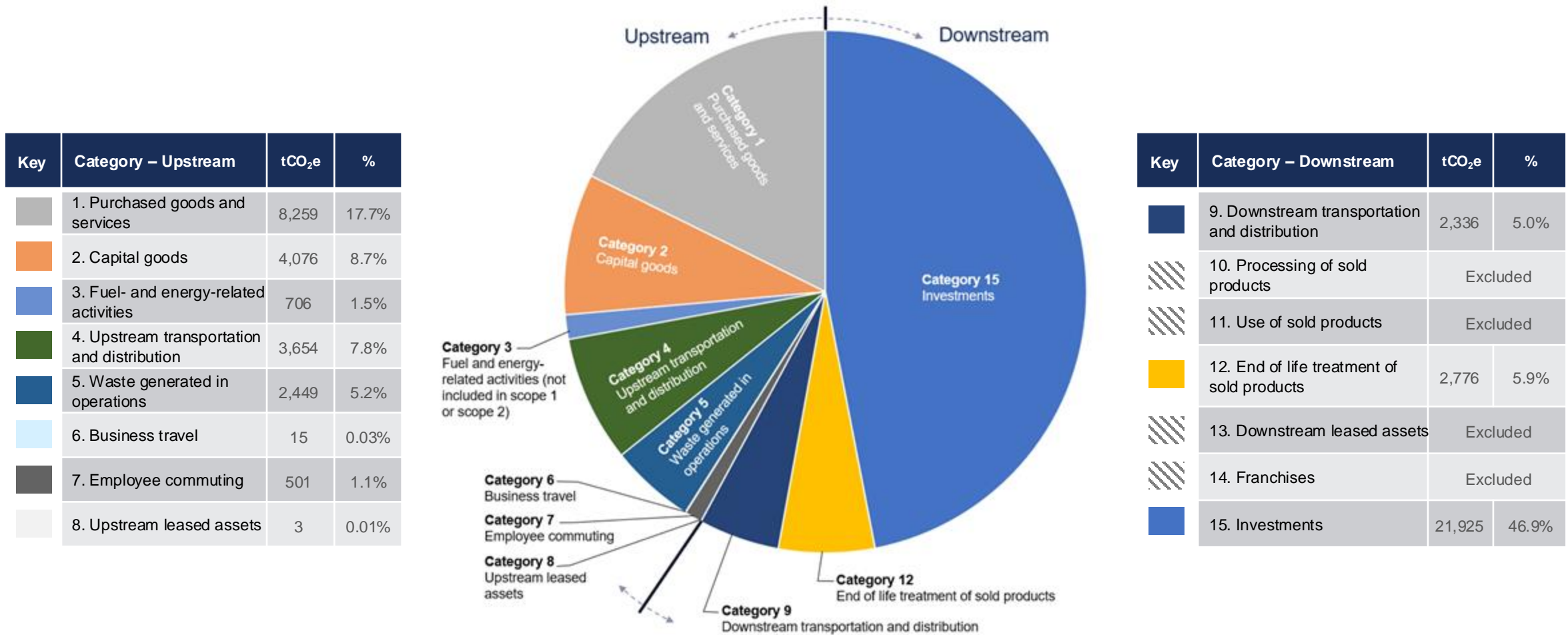


Figure 8: Baseline Scope 3 emissions for Icon Water highlighting upstream and downstream categories

3.4 Scope 3 combined with scopes 1 and 2

When all scopes are considered together, our scope 3 emissions make up over 70% of the total. Scope 1 emissions are still significant while category 15 of scope 3 is the largest block at one third of the total.

We have control over scopes 1 and 2 and influence over scope 3.

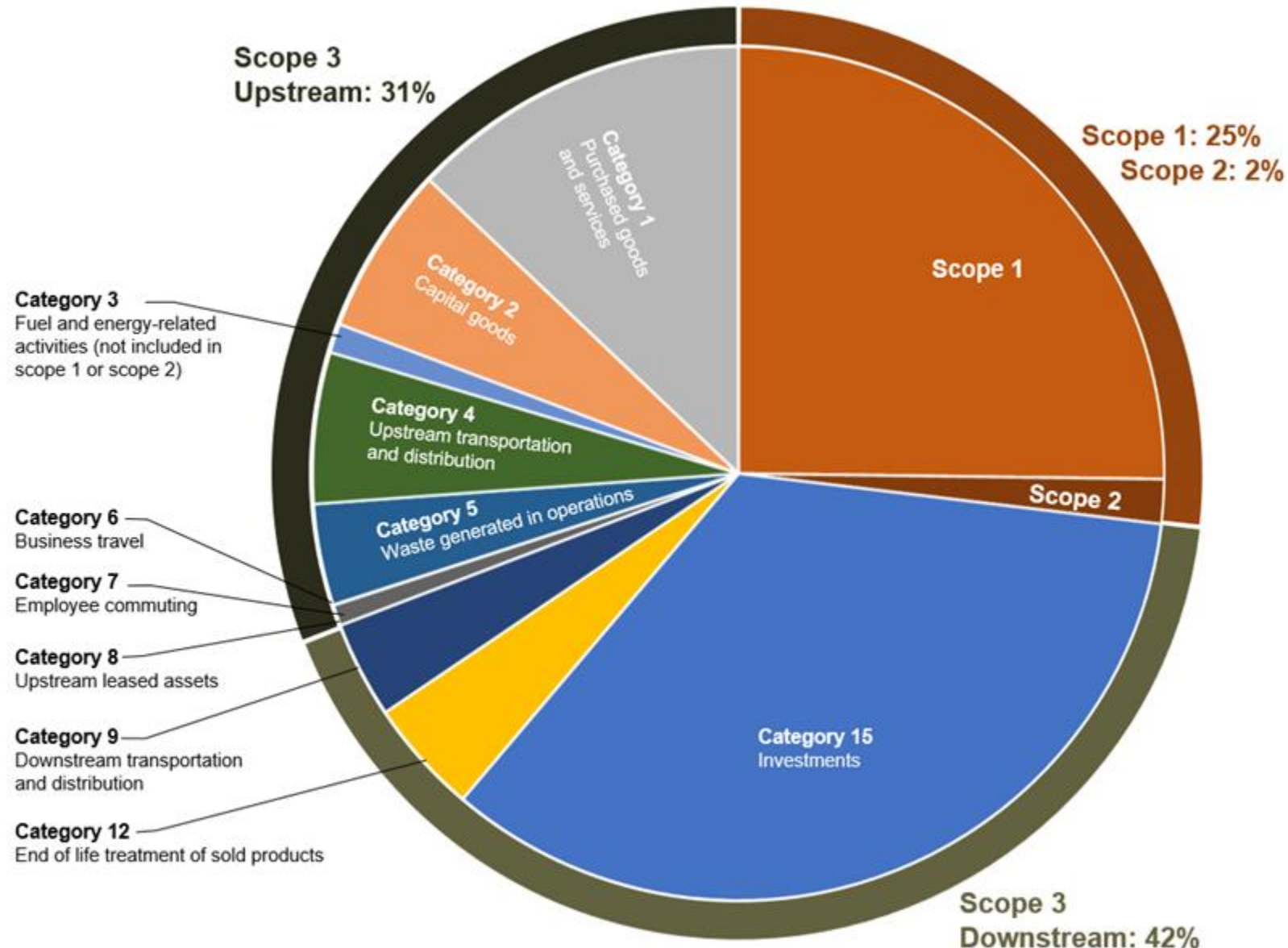
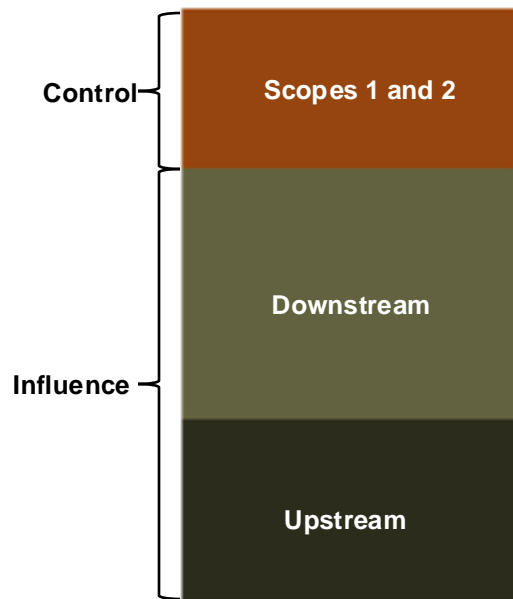


Figure 9: Baseline scope 3 emissions for Icon Water along with scopes 1 and 2

3.5 Emissions forecast under a 'no decarbonisation' scenario

We have already halved our greenhouse gas emissions since 1990 levels mainly through our use of mini hydro turbines, fuel switching, energy efficiency initiatives and the ACT achieving 100% renewable electricity.

With the majority of our scope 2 emissions now addressed by the ACT Government's move to renewable electricity, our focus is on reducing fugitive emissions from our wastewater treatment. Our fugitive emissions research projects are ongoing, working towards determining actual volumes and further mitigation opportunities of our largest source of emissions.

Many other Australian water utilities are now shifting their focus in the same direction as they move beyond an initial focus on scope 2 emissions.

Our emissions would grow in line with population growth if we took no action to further decarbonise. In this forecasting scenario we used modelling for fuel and electricity, and growth in equivalent persons (EP) based on our Wastewater System Strategy. Under this scenario*, annual forecast emissions are 28ktCO₂e in 2045 and total abatement to 2045 and 2050 (from 2023) needed is 360ktCO₂e and 500ktCO₂e, respectively.

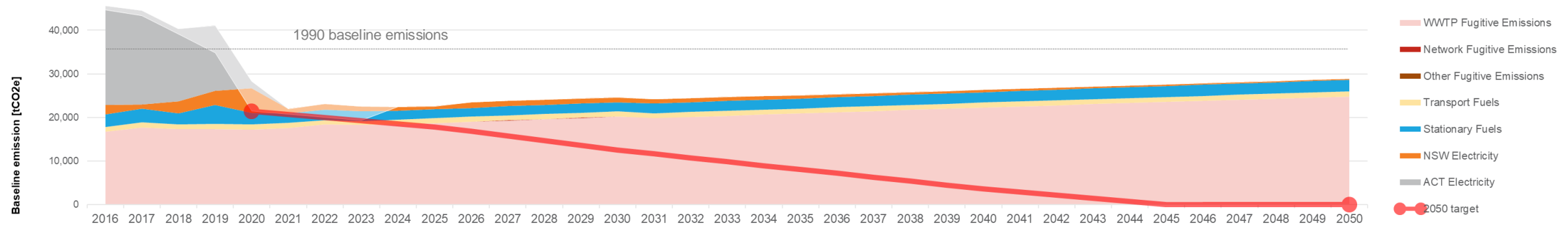


Figure 10: Icon Water 'no decarbonisation' emissions forecast (by fuel type) as modelled in 2021

*The model is conservative and based on a number of well-considered assumptions. The model will be updated as fugitive emissions data from our furnace becomes more reliable through research. This chart shows carbon credit surrender to align with the pathway. It does not address current and planned activities that may reduce Icon Water's future emissions.

3.6 Fugitive emissions challenge

Nitrous oxide (N₂O) is a particularly potent greenhouse gas with a global warming potential of around 265 times that of carbon dioxide, and tackling these emissions is an industry-wide challenge. N₂O fugitive emissions at our plants are currently calculated using emissions factors from pre-2021 reporting protocols, an approach followed by utilities Australia-wide for this common discharge.

These emissions factors are fixed and do not change regardless of how the plant is operated. As a result, we commenced research at our Lower Molonglo Water Quality Control Centre (LMWQCC) in 2021, measuring and quantifying actual N₂O emissions as depicted below. This research will enable us to understand our actual emissions and provide improved accuracy to allow us to target abatement strategies.

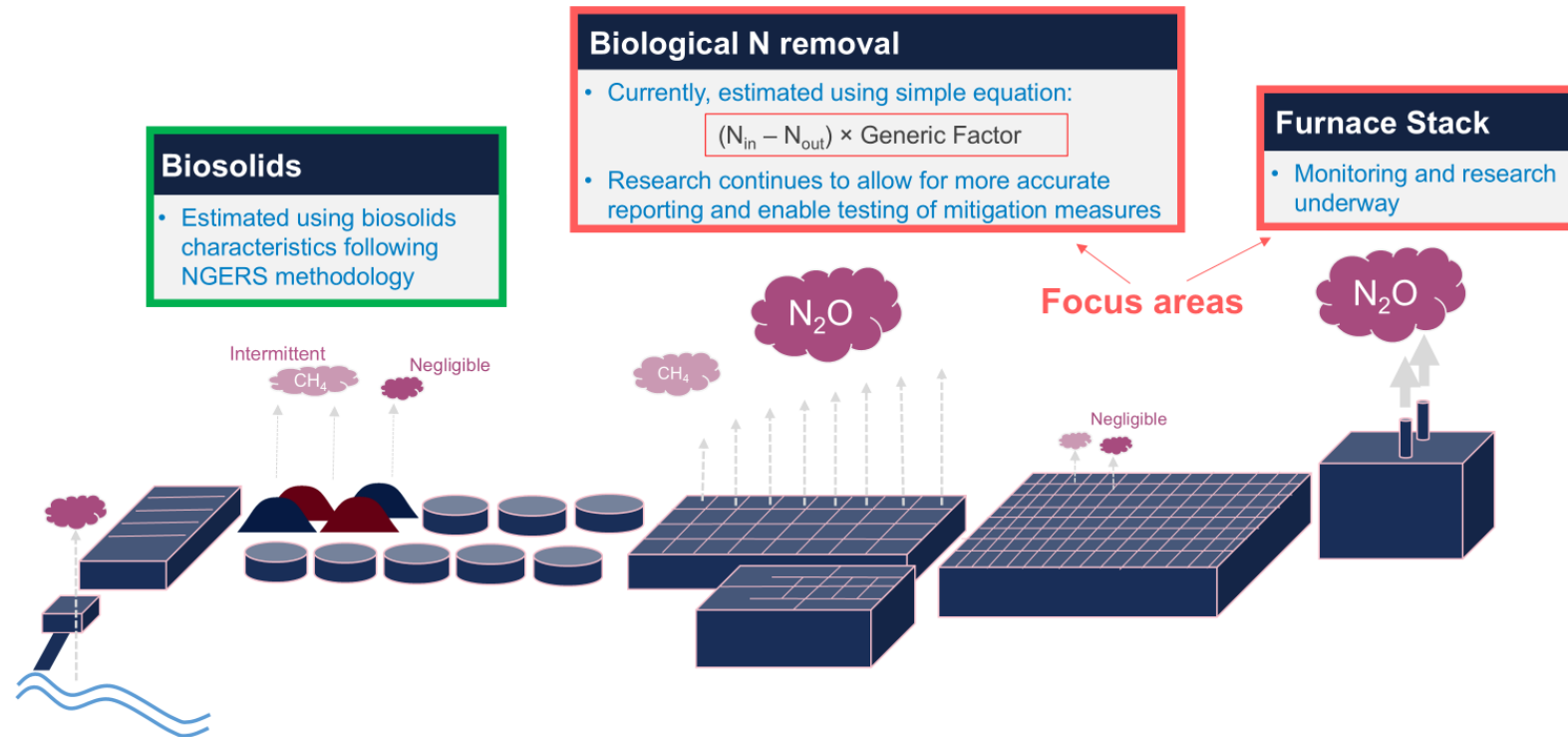


Figure 11: Fugitive emissions across LMWQCC by proportion based on combination of desktop research, monitoring and analysis

3.7 Opportunity creation

We conducted research to examine the relevance of emissions abatement solutions being implemented worldwide that could address our scope 1 and scope 2 emissions.

We supported this with a series of ideation workshops within the business with key subject matter experts to generate abatement ideas. We also drew on the expertise of the University of Queensland for wastewater fugitive emission mitigation suggestions.

This process generated 447 individual emission abatement ideas which we screened and distilled into 20 abatement opportunities for our initial eMission Possible Plan.

Many of the opportunities were complex, with many technologies still emerging, so we sought external advice regarding costs, abatement potential and feasibility around technical commercial readiness, performance, risk and operational suitability for our assets.

This information helped to frame our abatement cost analysis for these opportunities.

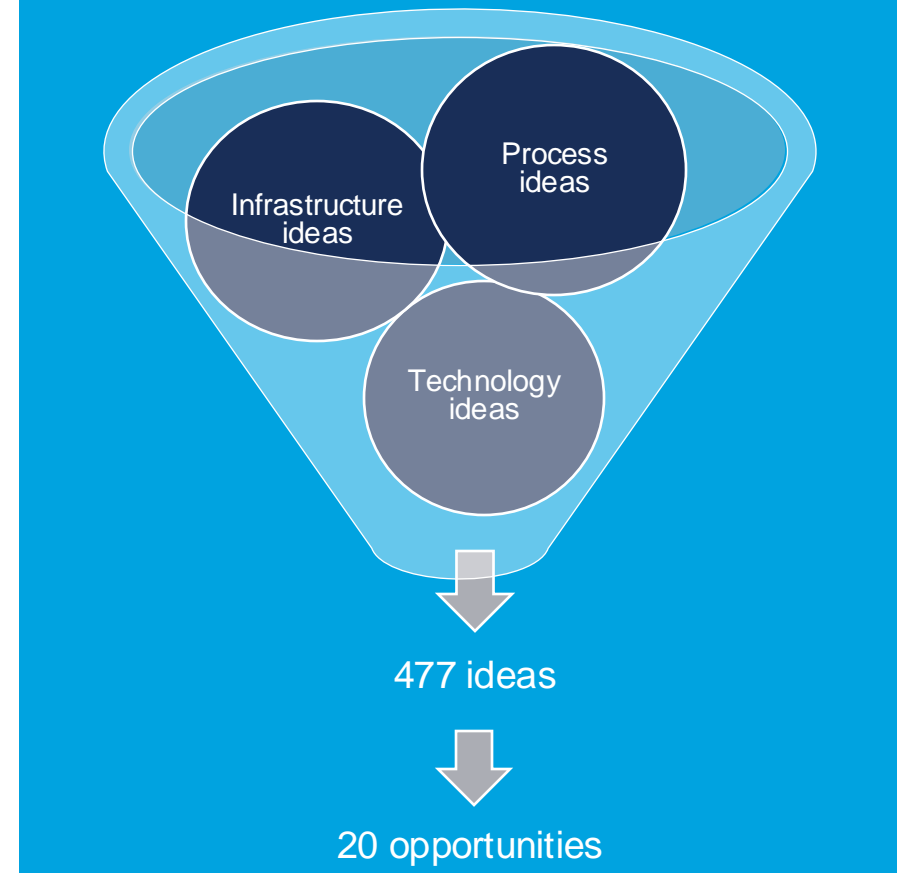


Figure 12: Process for identifying abatement opportunities



3.8 Marginal abatement cost curve

A marginal abatement cost curve (MACC) is a cost analysis model which compares the cost and abatement potential of carbon emission reduction initiatives. We compared the economic cost of emissions abatement of each of the feasible options through the MACC, prioritising those that deliver the optimal decarbonising business outcomes. The costs and savings were estimated by external consultants with figures verified by our finance team.

While the cost analysis of each option was as thorough as it could be, given the likelihood of technology advances and cost reductions in some cases over time, fully costed business case assessments will still be required, and the tool will be updated to reflect these changes during future reviews of this plan.

Each block in the MACC diagram on the next page represents an individual carbon abatement activity. For each block, the width indicates the amount of potential emissions abatement measured in tCO₂e, while the height estimates the cost of the carbon emissions abatement measured in \$/tCO₂e. Lower cost options are shown on the left-hand side and graduate to higher cost options on the right-hand side with negative cost options shown below the line.

To ensure we deliver emission reductions across all our emission sources, we need to consider an appropriate portfolio of actions that most cost effectively abate emissions overall. The pathway therefore includes a range of 'negative' cost, 'medium' cost and 'high' cost initiatives to deliver the best outcomes.

It is important to use a MACC in conjunction with other considerations, including the timing of opportunities and how they work together, as well as prioritising options in accordance with the emissions reduction hierarchy.

- 'Negative' cost options are net positive and generate financial savings even if there was no net zero target (below the x-axis).
- 'Medium' or net cost benefit options are between the x-axis and the carbon credit cost line.
- 'High' cost options appear above the carbon credit cost line.

3.8 Marginal abatement cost curve

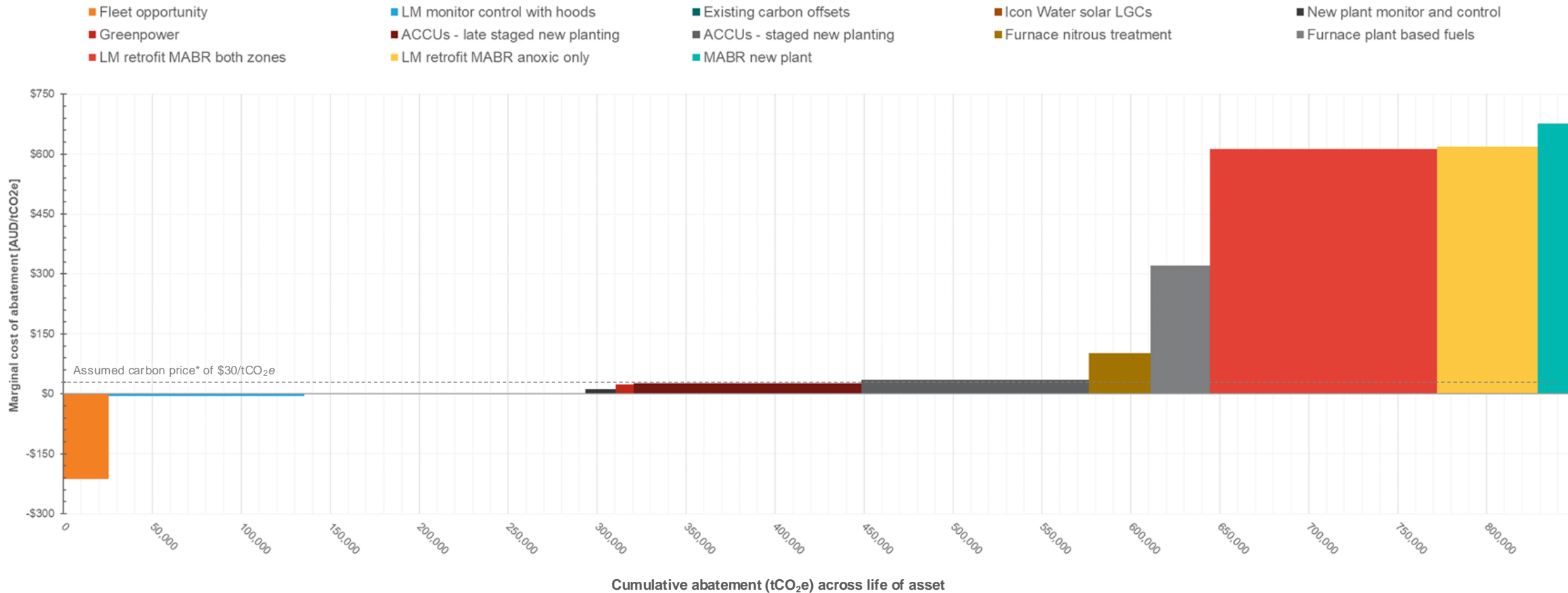


Figure 13: MACC for Icon Water as modelled in 2021

This shows all options considered feasible through our original analysis, with several options in this MACC being mutually exclusive. Note MABR is used as a representative for biofilm or other similar technology in general.

4. Pathway



4.1 Net zero by 2045 pathway

Our net zero pathway is made up of the opportunities and abatement actions that not only allow us to achieve net zero for scope 1 and 2 emissions by 2045, but that best suit our business priorities and customer needs. We have selected options and technologies that serve business needs in terms of planned projects at existing wastewater treatment plants, consider our licence requirements, and have superior nitrogen reduction and emissions reduction requirements at any new treatment plants.

We have included enough offsets to cover residual emissions from the technology gap on nitrous oxide emissions, using our existing and planned carbon credits plus new plantings (or similar), to ensure we maintain our net zero target beyond 2045.

Many abatement technologies are still emerging and are subject to local context, change and uncertainty. Options such as covering, extracting and treating fugitive emissions at our main wastewater treatment plant are currently unavailable. We are participating in relevant research and are a key instigator in the water industry to encourage broader participation and innovation.

Research topics include emissions from heat treatment, the possibility of leveraging odour treatment for emissions reduction, finding ways to remove nitrogen in wastewater, understanding emissions sequestration from biochar, and realising the value of this nutrient in a circular economy.

Our pathway for our scope 3 emissions reduction is outlined separately in our maturity pathway, later in this chapter.



4.1 Net zero by 2045 pathway

Our pathway in this plan closely resembles our original 2022 plan with minor revisions based on updates to emission volumes and modifications to opportunities. Revisions have not included significant updates to costs and timing for implementation – these will be addressed holistically in the next review to inform our 2028–33 price proposal to our price regulator. By then, results from our sewage treatment nitrous oxide (N₂O) monitoring and research projects will be able to better inform our mitigation requirements.

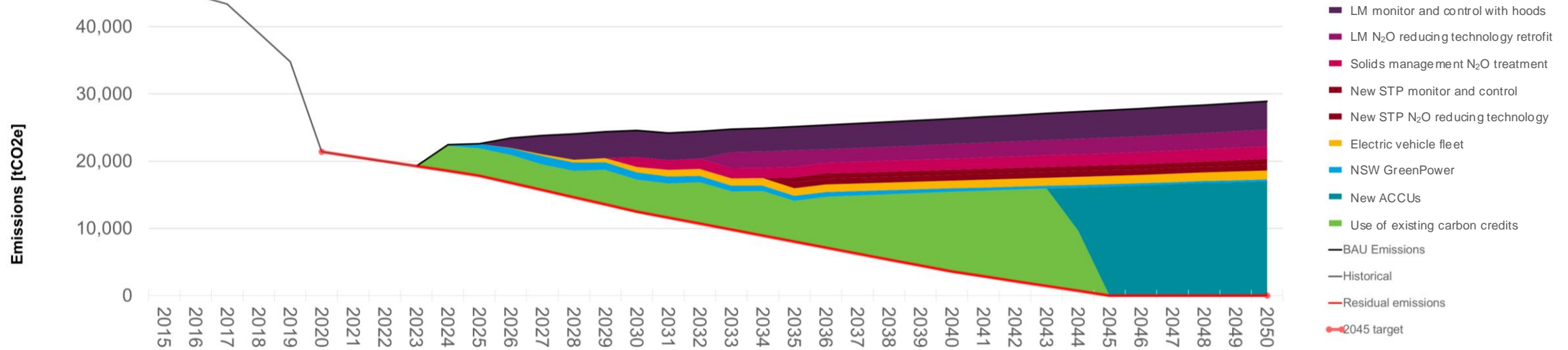


Figure 14: Net zero by 2045 pathway as modelled in 2021

Note: This chart includes assumptions around furnace emissions, currently considered to be too uncertain to use in our shorter-term planning. It assumes consistent sludge diversion and resulting methane which is quite variable in reality. As data becomes available the pathway will be updated, including material changes in options available for the net zero pathway. It should also be noted that while implementation dates for some initiatives have changed, these changes have not been fully integrated into this model.

4.1 Net zero by 2045 pathway

Figure 14 represents an indicative sequence for opportunities that will help us achieve our net zero target.

Pathway

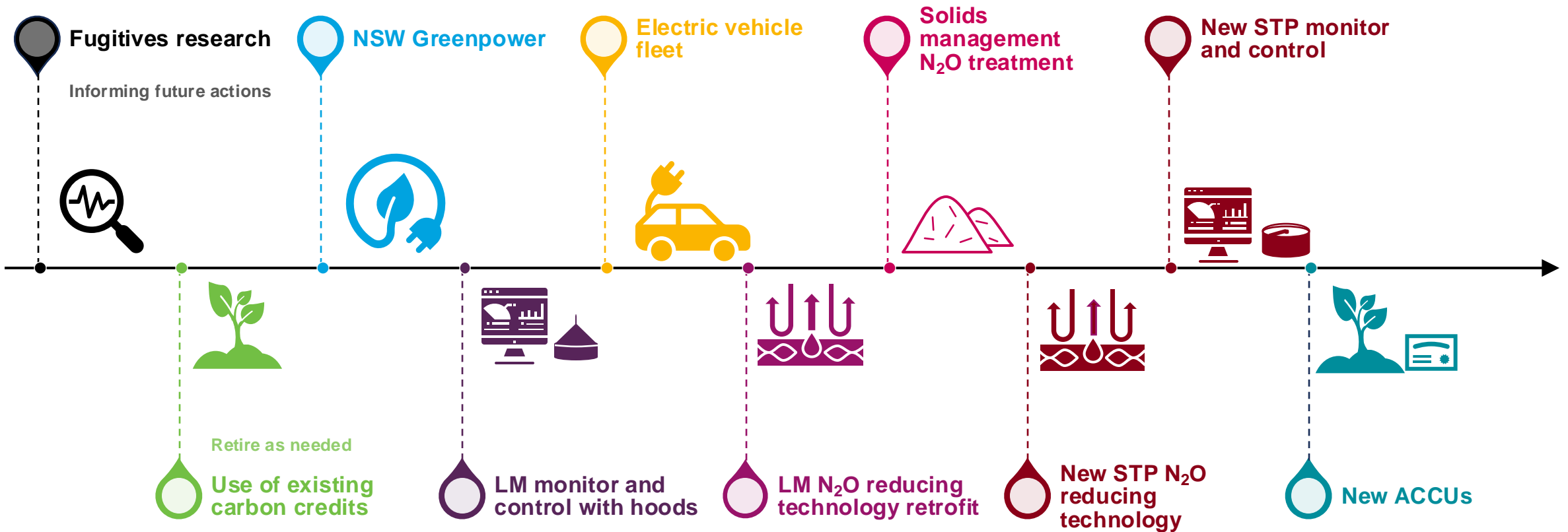


Figure 15: Indicative sequence of mitigation opportunities

4.2 Scope 3 maturity pathway

The maturity pathway outlines our overall approach as we move towards improved understanding and identify opportunities to influence a reduction in our third-party emissions, prioritised by materiality.

Table 2: Scope 3 maturity pathway

Initiating	Enabling	Continuing	Performing & Improving
Baseline scope 3	Report on previous FY for scope 3 which will support data management gap identification	Report on previous FY for scope 3 including performance and commentary	Report on previous FY for scope 3 including performance and commentary
Initial data gathering and gap analysis	Advice/research on boundary setting and overall peer review	Prepare for reasonable assurance level for future reporting	Ensure ready for reasonable assurance level for future reporting
Initial broad materiality to support risk analysis	Initial work on continuous improvement: Identify, prioritise, act, review, repeat. Including materiality, gaps and risks	Continue action on continuous improvement: Identify, prioritise, act, review, repeat	Ongoing action on continuous improvement, including moving to more embedment of scope 3 reductions into BAU
Initial boundary setting	Targeted supplier engagement covering >50% of estimated upstream emissions	Engage with next largest supplier/area	Ongoing supplier engagement activities guided by activities and findings to date
Initial internal stakeholder engagement	Internal engagement with finance, procurement, and with stakeholders relevant to investments	Continue internal stakeholder engagement guided by activities and findings to date	Ongoing internal stakeholder engagement broadening to include education linked with related activities (climate, CE, environment)
Learn and engage with industry peers	Initial data collection improvements via Financial Information Management System and procurement	Continue data collection improvements guided by activities and findings to date	Ongoing data collection improvements including more embedding and automation
Initial contact with relevant areas at ACT Government	Broaden/continue engagement/learning with relevant government and industry peers	Continue external stakeholder and peer engagement guided by activities and findings to date	Ongoing external stakeholder and peer engagement including development of (or assessing against) performance benchmarks
Align with CE [^] principles and Environment Social and Governance (ESG) practices more broadly	Ensure linkage with CE and general ESG activities including broader stakeholder education	In collaboration with CE stakeholders, carry out a waste and resource reuse audit to ensure data accuracy	Review approach, aligning with timing for CE plan review
	Start target setting activities including horizons based on materiality	Target setting refinement including alignment with ESG activities and reporting	Review performance against targets
	Initial internal engagement on improved internal technical standards and other mitigation opportunities	Action on internal standards improvements and other mitigation opportunities	Reviews to include critical analysis of materiality, gaps, risks, boundaries, mitigation, broader links with ESG broadly and more

[^]CE = Circular Economy

5. Delivery



5.1 Implementation

This plan was developed in consultation with key internal subject matter experts who will be integral to the implementation of the emission abatement opportunities. We also engaged external providers to deliver specialist option analysis, advice and upstream scope 3 emissions assessment.

We will progress and invest in net zero initiatives in accordance with the endorsement of our pricing regulator and our strategic and asset management planning, development, delivery and review frameworks.

To be successful we must resource its key elements, influence and support our third parties, keep abreast of advancements in decarbonising technologies and collaborate, develop partnerships and investigate grant or co-funding opportunities.

This plan is iterative and will continue to evolve and improve based on new knowledge and outcomes of initiatives. We will continue to model to see if an accelerated transition pathway is cost effective.

We actively participate on industry collaboration networks. We contribute to publications such as the WSAA Guide to reporting scope 3 emissions for the water sector.

We have presented at various national forums on our innovative fugitive emissions research projects.

We were winners of the 2024 ACT AWA Organisational Excellence Award for our work towards our net zero target.

5.2 Tracking

Monitoring

To maintain accuracy and transparency towards our targets, it is important that we measure, monitor and record our emission abatement in a timely manner. We can achieve this through:

- our existing energy management system to calculate our carbon footprint
- reporting our carbon offsets and carbon credits surrendered
- continuing to record our large generation certificates
- examining our implemented emission abatement projects and where necessary conduct monitoring to determine whether they are achieving the intended emission abatement
- using specific emission calculations to provide accurate emissions inventories
- improving scope 3 granularity where material to send a demand signal to third parties and inform business choices.

Performance reporting

Icon Water's Board and Executive have primary responsibility for managing and overseeing climate-related risks and opportunities. Climate change action and our performance against our transition to net zero targets are reported regularly to the Board. This information is then communicated through quarterly reporting to our shareholders.

Performance against the plan will be publicly communicated via our Annual Report.

This approach supports our sustainability reporting obligations.

Assurance

Performance against the plan will be independently audited against our targets through the plan's horizon as part of our National Greenhouse Energy Reporting Scheme compliance reporting.

5.3 Review

Review

This plan will be reviewed initially after three years and then at five-yearly intervals starting in 2027. The review points will be able to inform our pricing review timelines and interim target dates. It is likely we will need to update the plan so it remains aligned with ACT targets, available technology and the project pipeline of works.

Triggers

Any major shifts in the carbon landscape around legislation and policy, industry standards or technology advancements with major cost implications may prompt an adjustment of this plan. These changes will be reported to the Executive approvers outside the time-based review process.

This plan provides the framework for limiting our contribution to climate change and supports our three sustainability principles.



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Respect resources

Care for tomorrow



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