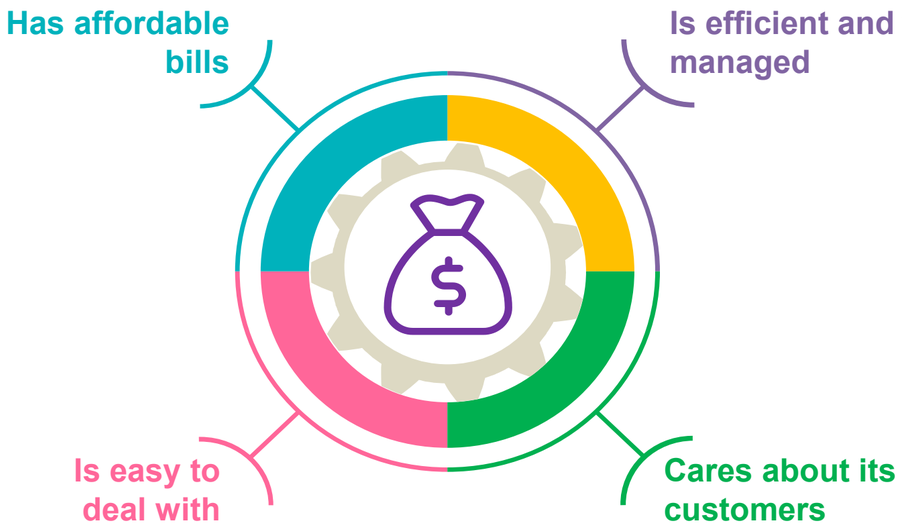
WATER SERVICES
ASSOCIATION OF AUSTRALIA

Understanding Efficiency

Why a project on

EFFICIENCY?

What drives **value for money**?



Variance explained: **61%**

The four main drivers of perceptions of value for money for water provider
Source: WSAA Customer Perceptions Survey 2021

1. Customers expect us to be efficient and well-managed.
2. We know prices will be going up (see Affordability report) so efficiency will be scrutinised.
3. Efficiency is not widely understood outside finance and regulatory teams.
4. Water businesses cannot progress broader value initiatives until we can demonstrate efficiency in our core business.
5. We need to be clear that we are all speaking the same language when it comes to efficiency.

CONTENTS

The three main parts of this is

Part 1

What is economic efficiency

What is not economic efficiency using the common misconceptions to illustrate

The concepts and three facets of economic efficiency

What this many look like in the urban water sector

Examples to illustrate

Part 2

A regulators approach to efficiency

How do they assess it including the techniques

Differences for different types of expenditure (discretionary, non-discretionary, CAPEX and OPEX)

Key points and experience with assessment of efficiency (where do we see the trends)

Part 3

Guidance on demonstrating efficiency (process or checklist)

Explanation of how this may look different or different steps/ evidence may be required for different types of proposals depending on uncertainty, discretionary expenditure, CAPEX etc

Throughout

Illustrate with examples and case studies

PURPOSE AND SCOPE

Enable utilities to demonstrate to its customers that it is using their resources in the best possible way

Improve internal conversations between regulatory and non-regulatory areas of a water business regarding efficiency

Assist water businesses assessment of the efficiency of proposed expenditure, and

Ultimately improve the ability of water businesses to make business cases to regulators and other relevant parties.

We do this by

- Busting some common misconceptions about efficiency
- Using real life case studies and examples from water and other sectors
- General checklist and guidance for demonstrating efficiency

Audience

Water utility employees

Those who do not have experience in regulatory economics

What is economic efficiency?

"Economic efficiency can be seen as value for money, or providing the services customers want at the lowest long-term cost."

Economic Efficiency = Value

COMMON MISCONCEPTIONS (CHAPTER 3) FOR EFFICIENCY INCLUDE:

Efficiency means neutralising the impact of other drivers of expenditure (e.g. growth) so prices remain constant overall without having to disaggregate the drivers

Efficiency is about cutting costs to the minimum

Efficiency is incurring lowest possible costs over the upcoming determination period

Efficiency means providing services at the lowest possible standards consistent with regulatory and other obligations

Efficiency is about deferring new investment as long as possible and running assets to fail

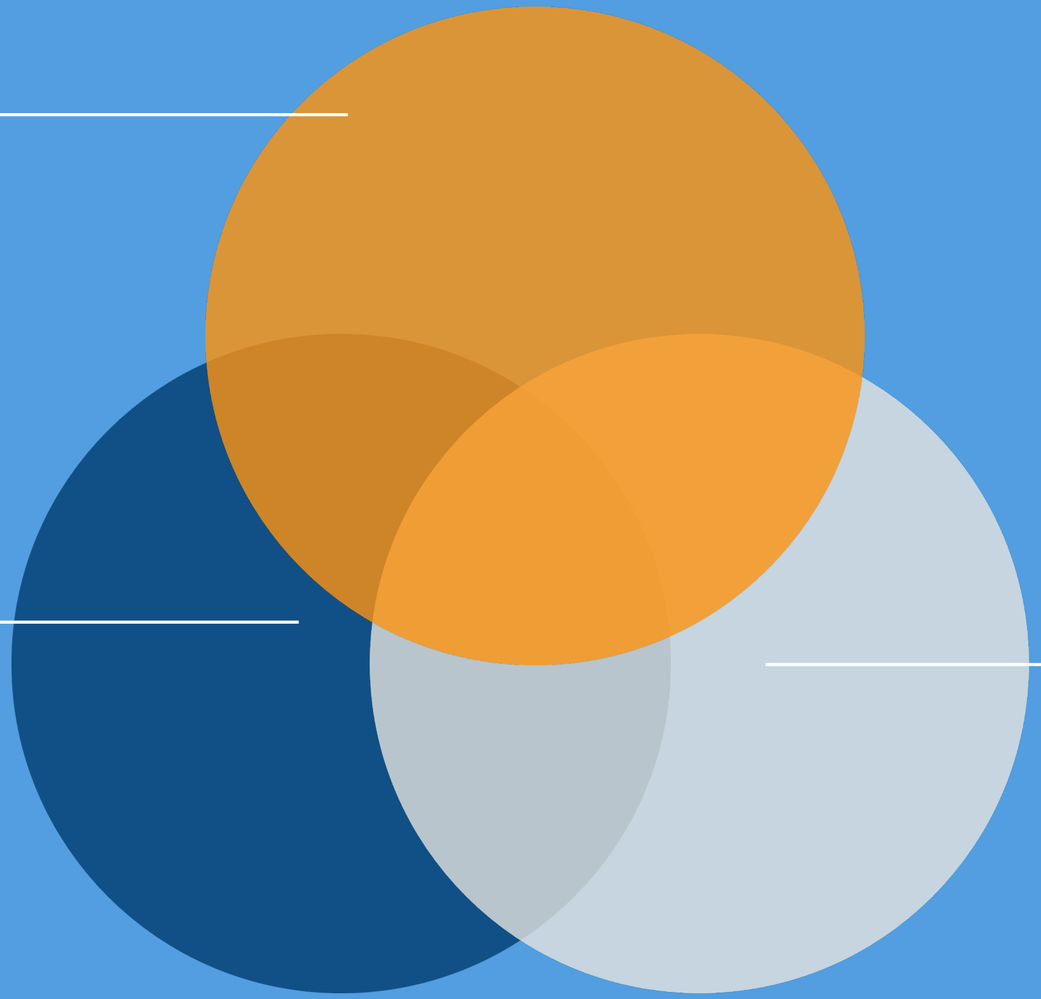
Efficiency means minimising costs even if this leads to higher risks minerals through the biosphere.

Efficiency means demonstrating on a once-off basis that a business is efficient relative to the industry standard

Efficiency means prices need to be flat or declining

Economic efficiency can be seen as synonymous with value for money. It is made up of three components.

Technical efficiency: delivering a given service for least cost.
How effectively businesses convert inputs (e.g., labour and capital) into outputs valued by customers (i.e. the delivery of drinking water and wastewater services).



Dynamic efficiency: adopting new techniques or technologies to increase outputs.
•Improvements in technical and allocative efficiency over time, particularly through investment. An example could be the use of new pipe-lining technology that enables a business to renew more kilometres of pipeline for the same cost.

Allocative efficiency: providing the optimal mix of services.

- The allocation of scarce resources to uses that maximise overall benefit to society. Allocative efficiency is about doing the ‘right thing’, whereas technical and dynamic efficiency is about doing it as efficiently as possible.

- An example is putting more resource into fixing pipeline breaks in areas where traffic or businesses are heavily impacted compared to those areas with lower economic impact.

What are the challenges for urban water?

Customers are not able to choose their supplier (i.e. lack of a competitive market) preventing direct information on what services customers most value or what it costs an efficient competitor to provide the services

Long-lived assets require investments over a long timeframe and decisions about maintenance and renewal of these assets over time

Demonstrating how best to manage a number of risks inherent to the industry including the uncertain availability of water due to droughts and the impact of climate change on water availability and assets

Determining reasonable estimates of the probability and consequences of key risks to factor into risk and cost-benefit analysis (in particular, risks associated with climate change)

Forecasting efficient costs in uncertain or volatile market conditions (e.g. the current high inflation environment).

The approach of regulators

The broad approach taken by regulators when assessing efficiency includes:

Establishing the services required to meet customer and regulatory obligations or expectations

01

02

Establishing the minimum expenditure needs to deliver this (usually by the ‘building block approach’, Box 5)

03

Setting prices to recover this expenditure

Regulators look at capital and operating expenditure individually as well as the trade offs between the two types of expenditure. The report provides detail on how each of these are assessed.

Regulators expect both prudency (doing the right thing) and efficiency (doing it for the least cost while still achieving the relevant objective)
This is also dependent on the nature of the expenditure.

Non-discretionary spend requires demonstrating that it is done as efficiently as possible (for example complying with regulator obligations)

Discretionary spend requires also demonstrating that it is the right thing to do, at the right time; that it represents value for money (see Box 7)

Lessons from recent experience

The use of top-down methodologies such as the Base-Step-Trend method to assess efficiency of operating expenditure (as opposed to bottom up methods)

If capital projects are exposed to uncertainty, then then CAPEX is likely to be deferred to next period.

Willingness to pay studies have a role, but should not be used in isolation to justify expenditure

Significant engagement and analysis is required to demonstrate prudency (doing the right thing)

Introducing new services (such as environmental or liveability benefits) needs to mainly benefit customers and not the business (such as through another source of revenue).

CAPEX needs robust business case and supporting evidence

Regulators are open to, and often require alternative options to providing a service or outcome to be considered

Guidance for Demonstrating Efficiency

Outline why the spending is in the long-term interest of customers

If spending is discretionary →

Demonstrate that customers want the proposed service at the proposed level

Analyse a range of options to produce the desired outcome

← Demonstrate customers are willing to pay for this service

Identify a prefered option (e.g through cost-benefit analysis)

Ubdertake sensitivity analysis to demonstrate the preferred option is robust

Ensure the preferred option is delivered at the lowest cost

Universal guiding principles to justify almost any activity or expenditure proposal. Note guidance is high level and relates to the nature, quality, focus and standard of evidence that regulators would generally find persuasive.

Approach to demonstrating efficiency

STEP	TYPE OF EXPENDITURE	EVIDENCE/DATA REQUIRED	TECHNIQUES	EXAMPLE
Outline why the spending is in the long-term interest of customers	All	Link spending to specific outcomes for customers in terms of services and prices over the long term Clear ‘golden thread’ narrative	Investment Logic Mapping	See section 4.2 and 5.5
Prudency: Link spending to nondiscretionary obligation	Non-discretionary, OPEX and CAPEX	Identify key drivers including relevant legislative or regulatory obligations	Understanding of nondiscretionary service (and related) outcomes, including their timing	Central Coast Council (section 3.3.3)
Prudency: Demonstrate that customers want the proposed service/level or outcome	Discretionary, OPEX and CAPEX	Customer research	Surveys, customer forums	Case study 2
Prudency: Demonstrate that customers are willing to pay for this service	Discretionary, OPEX and CAPEX	WTP studies	Choice modelling	Case study 2
Analyse a range of options to produce the desired outcome	All	List of alternative options including capital vs recurrent solutions – ideally in business case	Cost-benefit analysis	Case study 3

Approach to demonstrating efficiency

Step	Type of expenditure	Evidence/data required	Techniques	Example
Identify a preferred option	All	Business case or similar	Cost-benefit analysis (benefit -cost ratio, NPV etc)	Case study 3
Undertake sensitivity analysis to demonstrate the preferred option is robust	Capex/major opex step change	Business case or similar (preferred option is superior under a range of assumptions/scenarios)	Sensitivity analysis Real options analysis Scenario analysis	Case study 3, Sydney Water resilience expenditure (section 3.6.3)
Ensure/demonstrate the preferred option/proposed services will be delivered at the lowest cost	Opex	Historical expenditure Productivity growth (continuing efficiency) forecasts Market-tested estimates	Base-step trend Benchmarking	Case study 1
Ensure/demonstrate the preferred option/proposed services will be delivered at the lowest cost	Capex Step jump in Opex	Robust procurement process (e.g. markettesting or similar) Detailed approach to managing delivery of project and associated risks Proposed expenditure is within long-term context & strategy Consideration of scope for application of continuing efficiency factor	Business case methodology	Powercor ICT investment (section 3.4.3)
Benefits realisation (ex pt)	All	Ex post assessment of benefits and costs	Post project review	See section 2.2

Case studies

Four detailed case studies that demonstrate efficiency under different circumstances