



NATIONAL INFRASTRUCTURE UNIT

Water: the Step Change in the Thirty Year New Zealand Infrastructure Plan 2015

*Water New Zealand
September 2015*

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- Background and context
- *Thirty Year New Zealand Infrastructure Plan 2015*
- Challenges
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Background & Context

Government priorities

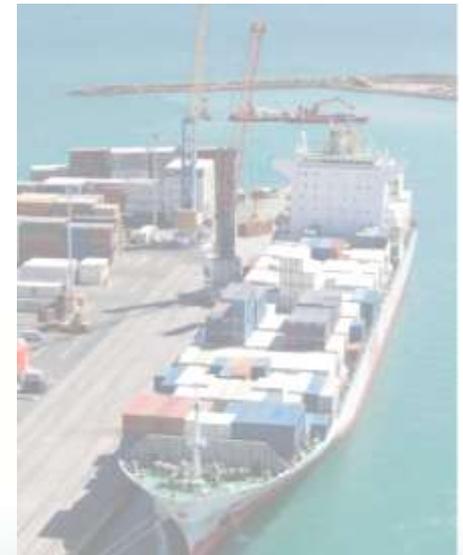


Five fiscal priorities:

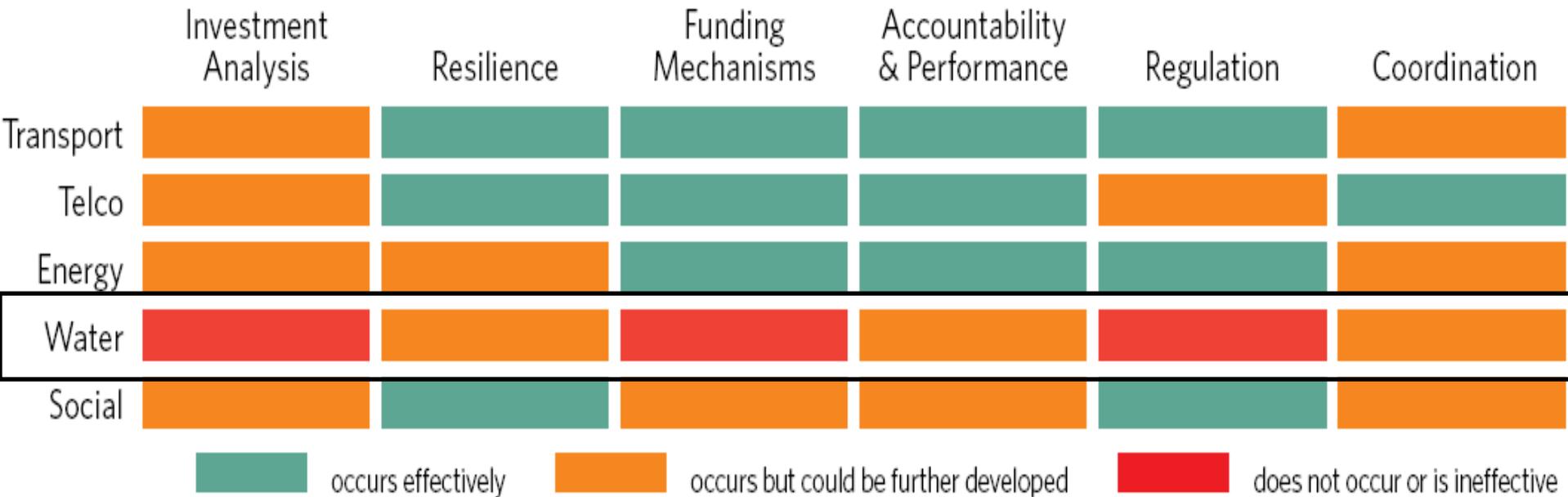
- Returning to surplus this year and maintaining surpluses in the future
- Reducing net debt to 20 per cent of GDP by 2020
- Further reducing ACC levies
- Beginning to reduce income taxes from 2017, and
- Using any further fiscal headroom to reduce debt faster.



- We look at five sectors – **Transport, Energy, Telecommunications, Water (Three Waters and Productive Water) and Social infrastructure.**
- In the three years to June 2014, Government added almost **\$16 billion** of assets to its books – reflecting investments in areas like roads, rail, ultra-fast broadband, electricity transmission and the Christchurch rebuild.
- **\$939 million** of new capital was invested through Budget 2015.
- The 2015 *Ten-Year Capital Intentions Plan* shows that over the next 10 years, **\$110 billion** will be spent on infrastructure:
 - Central Government: ~\$49 billion
 - Local Government: ~\$47 billion
 - Private sector: ~\$14 billion



2011 Plan assessments



2011 water sectors in detail

Investment Analysis

- Long-term, large-scale rural water investments not occurring.

Resilience

- Asset performance information largely unavailable.

Funding Mechanisms

- Local funding not linked to national standards.
- Scope to make better use of metering and pricing.

Accountability & Performance

- Asset performance information largely unavailable.

Regulation

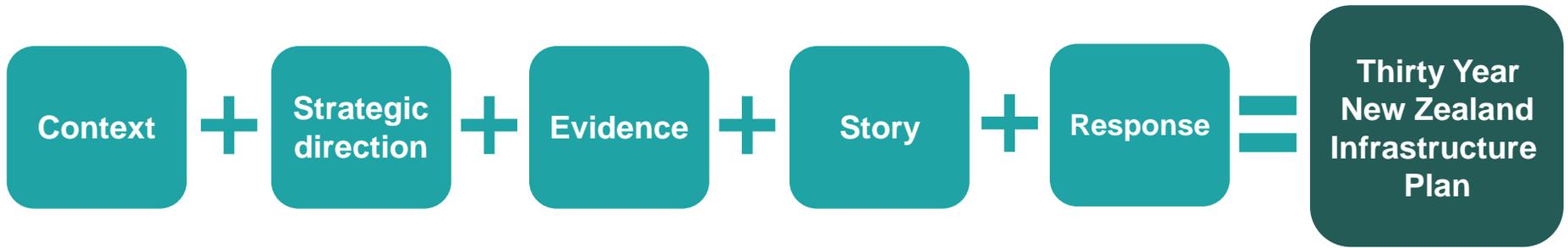
- The desired regulatory outcome for rural water has not been set.

Coordination

- Multiple agencies with water responsibilities.
- Competing uses across sectors.



2010 to 2015

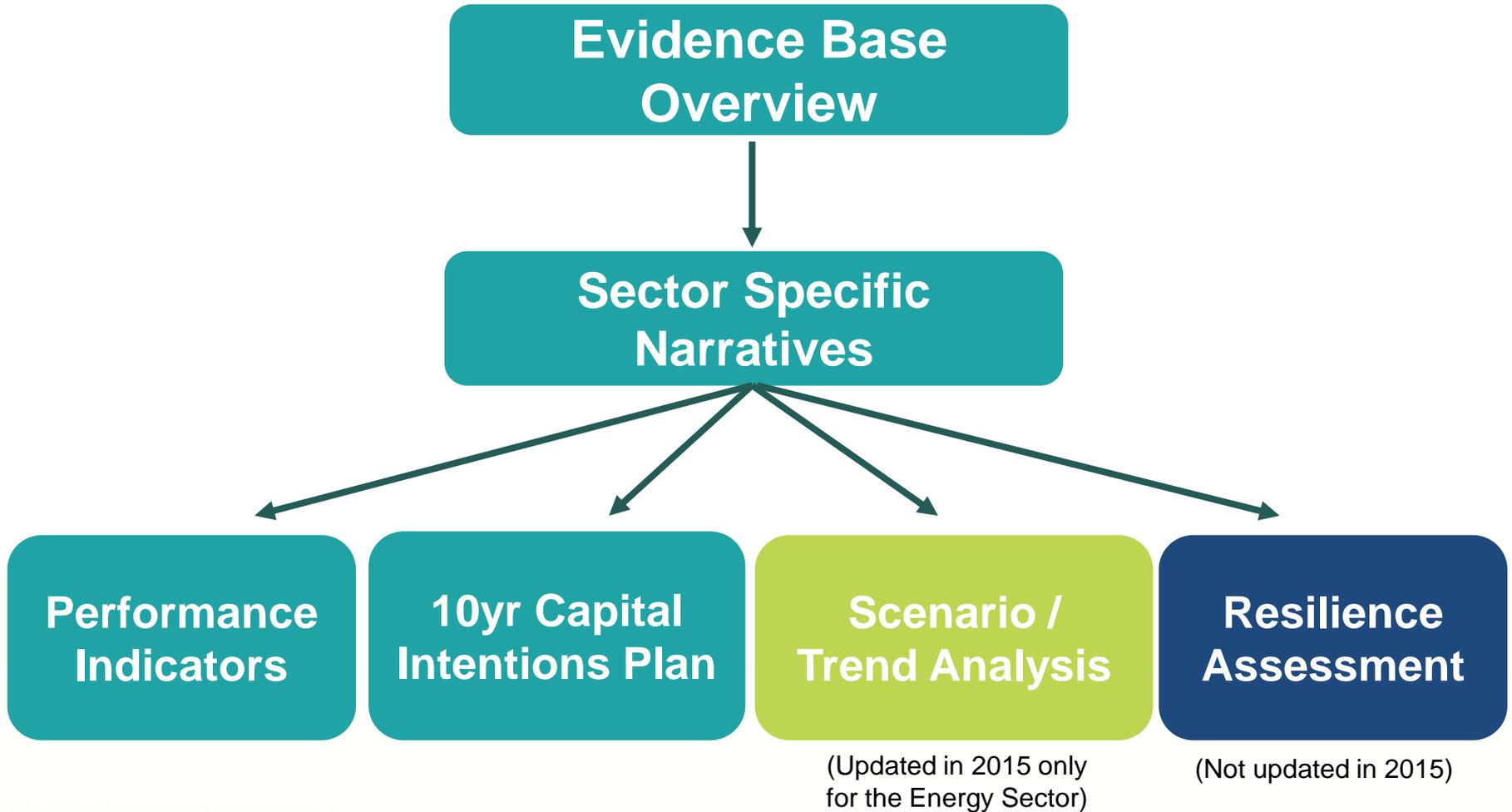


2014 Presentation: The Step Change

- Sector ownership
- Lifting the debate
- Focus on the basics
- Look beyond the borders
- Innovation



Evidence Base



Summary of findings

- Broadly, New Zealand has a good infrastructure base.
- However:
 - the quality of available data is still suboptimal; and
 - there are a number of challenges ahead and traditional systems will not be sufficient to meet these.
- To overcome these challenges, New Zealand needs to develop a more sophisticated approach to infrastructure management.
 - A more holistic approach to asset management
 - Better use of data and more effective decision-making
 - Adopting innovative approaches that move away from supply-side solutions
 - Regional and inter-agency collaboration
 - More integrated planning regulation
 - Resilience



Three Waters

Variability of data is reflected in the differing levels of asset management maturity across the sector with a number of local authorities lacking foundational practices – consistent data standards, understanding of critical assets, and links to decision making are particular areas to focus on strengthening.

There are significant untapped opportunities for water providers to realise benefits from alternative governance and service provision arrangements.

Compliance with regulatory standards is prima facie an issue of significant scale; in many cases, well under 50% of providers are always complying with resource consent conditions for waste and storm water.

The bottom line: The dramatic improvement in the quantity of information available over the past year has enabled a more informed conversation to occur but it has also highlighted the challenges parts of the sector face and the need for an overall step change in capability, asset management maturity and alternative governance and service provision arrangements.



Productive Water

Strategic Messages

There is large variation in the condition, age and efficiency of irrigation infrastructure, and a correspondingly wide range of asset management practices from immature through to comprehensive programmes.

There is investment uncertainty regarding future nutrient management expectations - the ability to intensify land use alongside mitigation costs for existing land use.

Sub-optimal infrastructure development may occur if inefficient processes are adopted to address the necessary iterative cycle of uptake, design, finance and consent considerations within business case risk management.

The bottom line: Existing and future schemes (and the associated land use) face increasing liability, changing management structures, higher environmental standards and greater investor scrutiny. This raises affordability and intergenerational issues and a need to better understand where the costs and benefits sit, requiring transparent and robust investment analysis.





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Thirty Year New Zealand Infrastructure Plan 2015

THE THIRTY YEAR
NEW ZEALAND
INFRASTRUCTURE PLAN 2015



Purpose of the Plan

- set a marker for New Zealand’s long-term infrastructure journey and the progress achieved;
- advance the debate on long-term provision of infrastructure;
- deliver a step change in our approach to infrastructure planning and management; and
- provide confidence to businesses and people to invest in capital, develop skills and take risk.

two outcomes sought from the Plan – better use of existing infrastructure and better allocation of new investment.



Vision

- The 2015 Infrastructure Plan provides the vision of:

By 2045 New Zealand's infrastructure is resilient and coordinated and contributes to a strong economy and high living standards

Our infrastructure underpins a **prosperous and inclusive New Zealand** with high quality state services and a healthy and sustainable natural environment. Economic performance is strong with infrastructure that supports **international connectedness, increased productivity, movement up the global value chain, and more exports and growth**. It contributes towards enabling **all New Zealanders to reach their full potential** and play a meaningful role in the economy and society.

New Zealand is supported by a **modern, integrated, and efficient infrastructure system** to make it amongst the most vibrant and exciting places to live and work on the planet, attracting international talent and investment and providing globally recognised goods and services to the rest of the world.



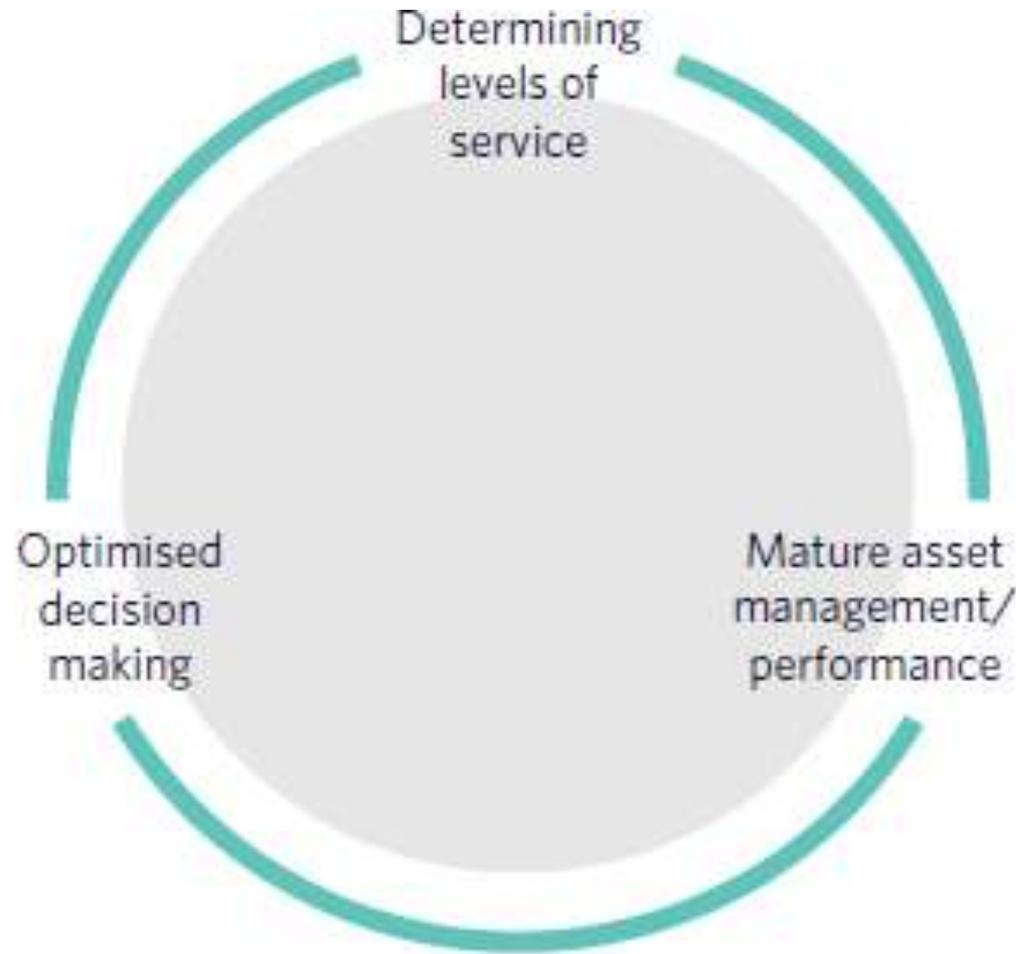
The challenges

Broadly, New Zealand has a good infrastructure base for today. However, to be successful over the next 30 years we need to have resolved a number of challenges ...

- Ageing assets and infrastructure networks
- Affordability constraints
- Population ageing
- Regional growth and decline
- Productivity gaps
- Technology change and cyber security risk
- Infrastructure pinchpoints, especially in Auckland
- Shift in economic gravity to Asia and the opportunities this provides
- Climate change and limits on natural resources



Responding to these challenges



A response summarised as ...

We need to make a step-change in our approach to infrastructure planning and management. ... Simply building things to address our problems is no longer sustainable...

1. We need a better understanding of the **levels of service** we want to deliver.
2. More **mature asset management practices** and use of data.
3. More effective **decision-making** that considers non-asset solutions.

This shift will drive the two outcomes sought from the Plan - better use of existing infrastructure and better allocation of new investment.



Determining levels of service...



Incorporates key elements of ...

1. **Collaborate effectively** –between infrastructure providers and other relevant stakeholders; this includes working together at the local, regional and national levels.
2. **Better integrate land use planning** - a need to more adequately align key pieces of planning legislation with wider urban development, housing and infrastructure plans.
3. **Have a clear and detailed vision** - infrastructure decision-makers at all levels need to have a clear vision to guide investment decisions.
4. Ensuring **clear alignment between individual investment decisions and economic goals.**
5. Consider **whole-of-life infrastructure costs.**



Mature asset management...



Fundamental to making good decisions about how services are delivered. It should bring together key disciplines beyond engineering, including financial and spatial planning.

Includes a stronger understanding of the **resilience of our infrastructure networks** at a national, regional and local level, especially key pinch-points and the degree to which different parts of networks are critical to overall performance.

To become more effective we need to:

- 1. Get the incentives right**
- 2. Apply asset management capability wisely**
- 3. Collect the right kind of data using shared data standards**



Optimised decision making...

Optimised
decision
making

To become more effective we need to strengthen ...

- 1. Governance and tools** - right governance/ownership structures and it is clear where accountabilities lie and what outcomes are being sought or delivered. We are missing opportunities to better utilise the private sector.
- 2. Demand management** - shift away from our traditional focus on building new infrastructure and first look at how existing assets might be better used through behaviour change.
- 3. The regulatory system** - ensure that a predictable regulatory system provides businesses and people with the confidence to innovate, invest in capital, develop skills and take risks.
- 4. Funding, financing and procurement** - consider the full range of tools when decisions are made to invest.



The *Plan* is actions-focused...

- The *Thirty Year New Zealand Infrastructure Plan 2015* is more than just the vision; it is a collaborative roadmap to get us there.
- It includes an *Action Plan*, detailing what stakeholders across the public and private sectors are doing, and what else needs to be done and by who.
- The Action Plan is based on the response framework.
- The New Zealand Infrastructure Forum held in March and regional workshops helped unpack this next vital step; to understand what the key actions and the roles of stakeholders need to be.





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Anchor Actions

Determining levels of service

- Investigate options to support long-term integrated regional infrastructure plans, potentially with legislative recognition incorporating central and local government objectives.

Mature asset management

- Develop metadata standards for roads, buildings and water.
- Establish regional centres of excellence or similar arrangements for collating and making available the data obtained through shared metadata standards.

Optimised decision-making

- Improve capital intentions planning focussing on years one to three.
- Develop the trans-Tasman procurement market.
- Enhance procurement governance of large/significant procurements.
- RMA changes to improve the national planning framework.
- Longer-term review of planning legislation and alignment.





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Water programme

2014 Presentation: The Step Change

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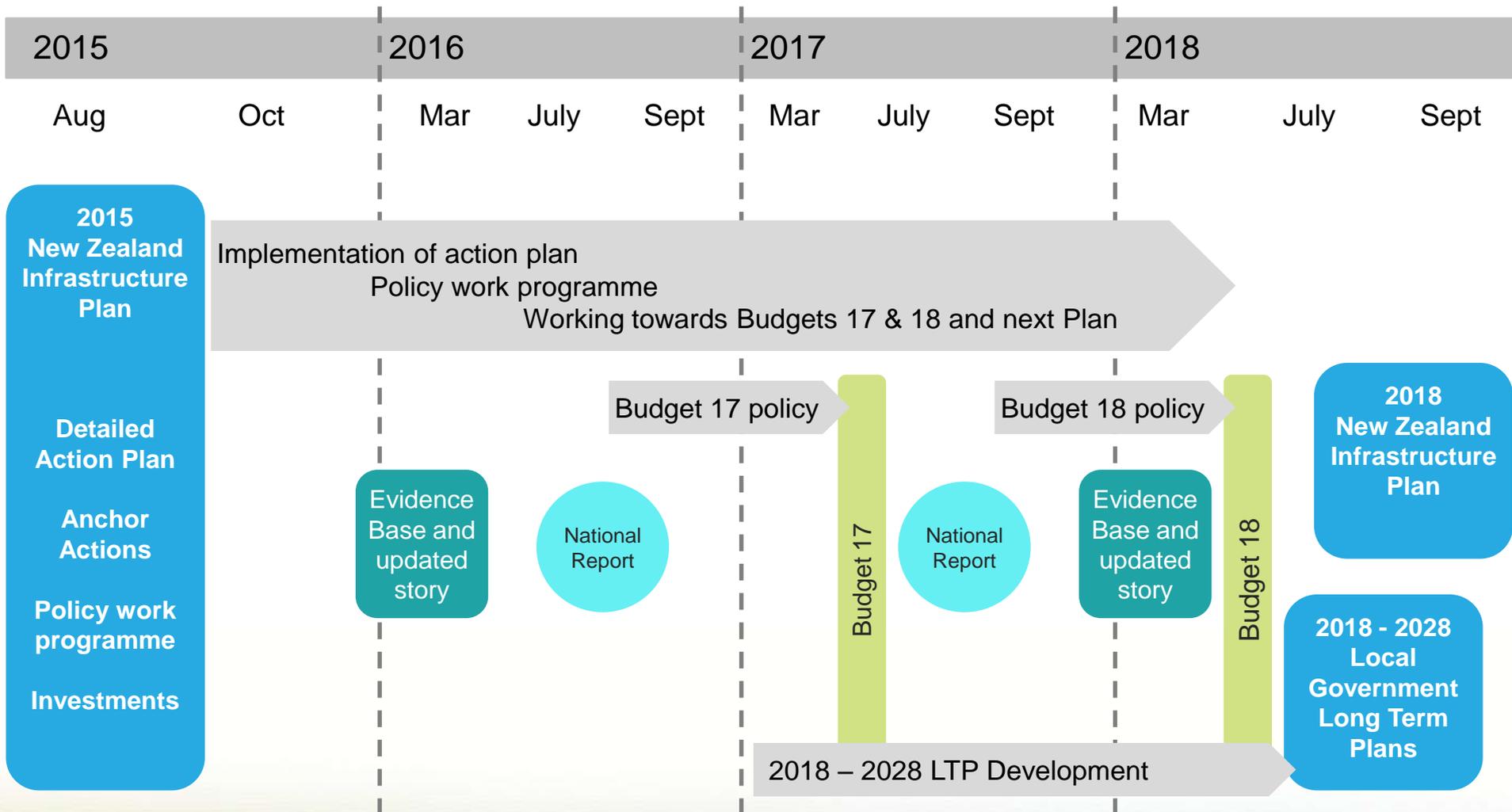


Key Water initiatives/programmes

- Anchor Actions
 - meta-data standards (water, buildings and roads)
 - associated centres of excellence – analytics, support local decision making
 - options to support long-term integrated regional infrastructure plans,
- LGNZ 3-Waters project, Equip and LGRA
- Policy programme of:
 - The impacts of climate change and the infrastructure response,
 - Long-term delivery of services and infrastructure provision in areas of population decline.
- Governance/delivery - Waikato Waters, Wellington Water
- Growth pressures – Auckland Council plans (FLIP, FULSS)
- Supporting innovation - QLDC
- Rainfall, runoff, river channel flows, flood protection – new focus



Towards 2018





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