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The Productivity Commission
30 January 2024

By email: water.reform.2024@pc.gov.au

Dear Productivity Commission,

Submission in response to National Water Reform 2024

The Business Council for Sustainable Development Australia (BCSDAustralia) welcomes the opportunity to make this submission to the Productivity Commission's Paper (**the Paper**).

BCSD Australia strongly advocates for a transformative approach in national water reform, emphasizing the integration of innovative water management practices, active collaboration with Indigenous communities, and the strategic alignment of economic, environmental, and social objectives, to ensure a sustainable and resilient water future for Australia.

BCSD Australia is a prominent business-led non-governmental organization (NGO) focused on sustainable development in Australia. As a member of the World Business Council for Sustainable Development (WBCSD), we are part of a global network of over 200 forward-thinking companies working together to accelerate the transition to a sustainable world. Our relationship with the WBCSD enables us to leverage global insights and best practices, while our focus remains on addressing the unique sustainability challenges and opportunities within Australia.

Our mission is to drive ambition, action, and accountability by businesses on the sustainable development agenda. We work collaboratively with Australian businesses, government, and other stakeholders to promote sustainable business practices, aligning our efforts with the broader objectives of the WBCSD and its global network. Through this partnership, we aim to position BCSD Australia as a leading advocate for sustainable development in the Australian business sector, contributing to both national and global sustainability goals.

We appreciate the time and effort that will take to review our submission on this important matter. We look forward to working with the Productivity Commission on these reforms and look forward to continued engagement in subsequent stages of the policy development process. If appropriate we would also welcome the opportunity to speak directly on these points at the appropriate time.

Yours faithfully,

Andrew Petersen
CEO I **Business Council for Sustainable Development Australia**
World Business Council for Sustainable Development Australian Partner

Executive Summary

Our submission, grounded in extensive research and practical examples, focuses on the implementation and effectiveness of the National Water Initiative (NWI) and related reforms, with a particular emphasis on water security as a pivotal aspect of national water reform.

Key Highlights:

1. **Progress and Challenges in NWI Implementation**: We observe variable progress across jurisdictions in adopting NWI principles. Key challenges include aligning state and federal policies and addressing specific regional water management needs. We recommend enhanced integration of climate change and sustainability into the NWI.
2. **Water Security as a Central Focus**: We emphasize the importance of water security, advocating for innovative management practices and the adoption of technological innovations. The Singapore Public Utilities Board's approach serves as a model for effective water security management.
3. **Involvement of Indigenous Communities**: We stress the need for the involvement of Aboriginal and Torres Strait Islander communities in water management, advocating for co-designing water management strategies with these communities.
4. **Balancing Economic, Environmental, and Social Factors**: We recommend that water reform policies balance economic viability with ecological sustainability and social equity, drawing on examples like the Murray–Darling Basin Plan.
5. **Utilizing the Water Act 2007**: We suggest leveraging the Water Act 2007 to establish a robust framework for sustainable water management, integrating global best practices and technological innovations.

Our submission aims to contribute to the development of a strategic and adaptive approach to water reform in Australia, aligning with global best practices and the evolving needs of the Australian context.

Relevance of the Sustainable Development Goals (SDGs)

At BCSD Australia, we recognize the importance of aligning our national policies with the Sustainable Development Goals (SDGs) and their indicators, in line with Australia's commitment to these global objectives. This alignment is not only a reflection of our international obligations but also a strategic approach to achieving sustainable development across various sectors.[1]

Here's how the topic of water reform intersects with specific SDGs:

Relevant SDGs and Indicators

1. SDG 6: Clean Water and Sanitation
    - Indicator 6.4.1: Change in water-use efficiency over time.
    - Indicator 6.5.1: Degree of integrated water resources management implementation.
    - Indicator 6.6.1: Change in the extent of water-related ecosystems over time.
2. SDG 11: Sustainable Cities and Communities
    - Indicator 11.5.1: Number of deaths, missing persons and persons affected by disaster per 100,000 people.
    - Indicator 11.5.2: Direct disaster economic loss in relation to global GDP.
3. SDG 12: Responsible Consumption and Production
    - Indicator 12.2.1: Material footprint, material footprint per capita, and material footprint per GDP.
    - Indicator 12.4.2: Hazardous waste generated per capita and proportion of hazardous waste treated.
4. SDG 13: Climate Action
    - Indicator 13.1.1: Number of countries with national and local disaster risk reduction strategies.
    - Indicator 13.2.1: Number of countries that have communicated the establishment or operationalization of an integrated policy/strategy/plan which increases their ability to adapt to the adverse impacts of climate change.
5. SDG 15: Life on Land
    - Indicator 15.1.1: Forest area as a proportion of total land area.
    - Indicator 15.9.1: Progress towards national targets established in accordance with Aichi Biodiversity Target 2 of the Strategic Plan for Biodiversity 2011-2020.
6. SDG 17: Partnerships for the Goals
    - Indicator 17.14.1: Number of countries with mechanisms in place to enhance policy coherence of sustainable development.

[1] https://www.dfat.gov.au/aid/topics/development-issues/2030-agenda-sustainable-development#:~:text=Australia%20and%20the%202030%20Agenda,Development%20(the%202030%20Agenda).

Research and Resources

1. UN Water: Offers comprehensive resources on water and sanitation, including policy guides and toolkits aligned with SDG 6. UN Water Resources.
2. World Bank Water: Provides data, reports, and tools on water resource management, relevant to multiple SDGs. World Bank Water.
3. OECD Water Governance Programme: Offers guidelines and best practices for water governance, contributing to SDGs 6, 11, and 13. OECD Water Governance.
4. Global Water Partnership: A network that supports countries in sustainable water management, aligning with SDG targets. Global Water Partnership.
5. IWA Water Policy Group: Provides insights and publications on global water policy, relevant to SDG 6 and beyond. IWA Publications.
6. SDG Compass: A guide for businesses on how to align strategies with the SDGs, including water-related goals. SDG Compass.
7. Ceres' Water Toolkit: Offers a framework for sustainable water management in the corporate sector, supporting SDG 12 and 15. Ceres Water Toolkit.
8. UNDP Climate Change Adaptation: Focuses on climate action and its impact on water resources, relevant to SDG 13. UNDP Climate Adaptation.
9. The Nature Conservancy: Provides resources on ecosystem conservation and water, linking to SDG 15. Nature Conservancy Water.
10. SDG Knowledge Hub: An information platform providing insights and updates on SDG progress, including partnerships and water-related goals. SDG Knowledge Hub.

WBCSD action on the issue

As the Productivity Commission embarks on its critical inquiry into the progress of Australian governments under the 2024 water reform framework, it is imperative to consider the broader context of global best practices and innovative tools in sustainable water management.

The World Business Council for Sustainable Development (WBCSD) offers a wealth of resources and insights that are highly relevant to this inquiry. Particularly, WBCSD's Global Water Tool (GWT) and its suite of water stewardship resources provide a comprehensive framework for assessing and managing water-related risks and opportunities. These tools, developed in collaboration with leading global corporations and partner organizations, offer valuable benchmarks and methodologies that can inform and enhance Australia's approach to water reform. By integrating these global perspectives and tools into our national strategy, Australia can not only meet its current water reform objectives but also align with international best practices and sustainability goals, thereby ensuring a more robust, effective, and forward-looking water management policy.

Here's a summarized overview of the key tools and initiatives:

1. Global Water Tool (GWT)

- **Purpose**: Helps businesses identify water risks and opportunities.
- **Features**: Excel-based, maps locations and water use against datasets on water, sanitation, population, biodiversity.
- **Benefits**: Assesses water risks for global operations, supply chains, and new projects.
- **Integration**: Incorporates water stress indicators from WRI; useful for corporate disclosure initiatives (GRI, CDP Water, Bloomberg, Dow Jones Sustainability Index).
- **URL**: Global Water Tool

2. WBCSD's Water Stewardship Resources

- **Focus**: Increasing awareness and adoption of sustainable water strategies.
- **Tools and Guides**:
    - **Wastewater Impact Assessment Tool (WIAT)**: For assessing wastewater-related impacts.
    - **CEO Guide to Water**: Strategic guidance for executives.
    - **Wastewater Zero**: Framework for wastewater management.
    - **Freshwater Accountability Navigator (FAN)**: Aiding in setting freshwater targets and basin-level action.
- **Goal**: Support companies in setting ambitious targets and being accountable for their water management.
- **URL**: Water Stewardship Resources

3. Sustainable Water Management and Stewardship

- **Emphasis**: Importance of sustainable water management for societal and economic prosperity.
- **Advocacy**: Promotes collaborative action to mitigate risks associated with water as a finite shared resource.
- **Alignment**: With global initiatives like Science-Based Targets for Freshwater, TCFD, and TNFD.
- **URL**: Sustainable Water Management

These resources from WBCSD provide comprehensive tools and insights for businesses to effectively manage water resources and align with global sustainability goals. They are instrumental for organizations like BCSD Australia in formulating strategies and making informed decisions regarding sustainable water management.

Here is also a summary of insights, resources, guides, tools, and publications from various business non-government organizations (NGOs) on the topic of water reform:

1. **Guide to Responsible Business Engagement with Water Policy**
    - **Organization**: CEO Water Mandate
    - **Content**: Offers guidance for businesses to engage responsibly in water policy, including combating corruption in the water sector.
    - **URL**: Guide to Responsible Business Engagement
2. **Financing a Water Secure Future**
    - **Organization**: OECD
    - **Content**: Provides a framework and diagnostic tools for financing water security, based on extensive research.
    - **URL**: Financing a Water Secure Future - OECD
3. **Ensuring Good Water Governance**
    - **Organization**: OECD iLibrary
    - **Content**: Explores water governance, including role allocation, responsibilities, and policy management.
    - **URL**: Ensuring Good Water Governance - OECD iLibrary
4. **Water Governance Reform Framework**
    - **Organization**: MDPI
    - **Content**: Discusses a framework for evaluating and improving water governance reform.
    - **URL**: Water Governance Reform Framework - MDPI
5. **Tools and Publications on Water Governance**
    - **Organization**: OECD
    - **Content**: Reports on studies focusing on efficient, effective, and inclusive water governance policy.
    - **URL**: OECD Water Governance Tools
6. **Charting Our Water Future**
    - **Organization**: McKinsey & Company
    - **Content**: Provides economic tools for water resources and strategies for fact-based water policies.
    - **URL**: Charting Our Water Future - McKinsey
7. **The United Nations World Water Development Report 2023**
    - **Organization**: United Nations
    - **Content**: Discusses strategic approaches for reform in agricultural water resources management.
    - **URL**: UN World Water Development Report 2023
8. **Water Resources Policy and Legislation Toolkit**
    - **Organization**: Pacific Water
    - **Content**: A toolkit for drafting, reviewing, revising, or adopting water policy and legislation.
    - **URL**: Water Resources Policy Toolkit
9. **The MSP Sourcebook**
    - **Organization**: Global Water Partnership
    - **Content**: Focuses on governance and management of water resources for sustainable development.
    - **URL**: The MSP Sourcebook - GWP
10. **Financing Nature for Water Security**
    - **Organization**: The Nature Conservancy
    - **Content**: A guide for watershed investment programs to improve water security.
    - **URL**: Financing Nature for Water Security

These resources have provided a comprehensive overview of global best practices, tools, and strategies in water reform, offering valuable insights for BCSD Australia's submissions and policy analysis.

Responses to specific questions

Inquiry into the National Water Initiative - BCSDA Response
We appreciate the opportunity to contribute to the Productivity Commission's inquiry into the reform progress of Australian governments towards achieving the objectives and outcomes of the 2004 National Water Initiative (NWI).

Recommendations for Achieving NWI Objectives and Outcomes

1. Enhanced Collaboration with Business Sector: Encourage active collaboration between government and the business sector. For instance, the Global Water Tool developed by the World Business Council for Sustainable Development

(WBCSD) is an excellent example of how businesses can map water use and risks, aiding in effective water management strategies. WBCSD Global Water Tool.

2. Incorporating Climate Change and Population Growth: Address the challenges of climate change and population growth in water reform policies, as advised in the 2020 inquiry. The OECD's "Financing a Water Secure Future" report provides insights into financing water security in the face of these challenges. OECD Report.
3. First Nations Involvement: Strengthen the involvement of First Nations communities in water management. This aligns with global trends towards inclusive water governance, as highlighted in the CEO Water Mandate's "Guide to Responsible Business Engagement with Water Policy". CEO Water Mandate Guide.

Utilizing the Water Act 2007 for National Water Reform Policy

1. Framework for Sustainable Water Management: Leverage the Water Act 2007 to establish a robust framework for sustainable water management, integrating insights from global best practices such as those documented by McKinsey & Company in "Charting Our Water Future". McKinsey Report.
2. Policy Adaptation for Contemporary Challenges: Adapt the Water Act to contemporary challenges, including technological advancements and evolving environmental conditions. The OECD's guidelines on water governance provide a valuable reference for this adaptation process. OECD Water Governance.

Addressing Findings and Recommendations from the 2020 Inquiry

1. Strengthening Climate Change Resilience: Integrate the recommendations from the 2020 inquiry with a focus on building resilience against climate change impacts on water resources. The United Nations World Water Development Report 2023 offers insights into strategic approaches for reform in agricultural water resources management. UN World Water Development Report 2023.
2. Innovative Financing Models: Explore innovative financing models for water security, as suggested by the OECD's "Financing a Water Secure Future" report, to address the investment needs in water infrastructure. OECD Report.

Objectives and Elements of the National Water Initiative - BCSDA Response

Response to NWI Objectives

1. Clear and Nationally-Compatible Characteristics for Secure Water Access Entitlements:
    - Recommendation: Implement a unified national framework for water access entitlements, ensuring consistency and security for businesses and communities. This approach mirrors successful models in regions like the European Union, where integrated water management policies have been effective. Source: OECD Water Governance.
2. Transparent, Statutory-Based Water Planning:
    - Recommendation: Enhance transparency in water planning through stakeholder engagement and data sharing, similar to the practices outlined in the CEO Water Mandate's "Guide to Responsible Business Engagement with Water Policy". Source: CEO Water Mandate Guide.
3. Statutory Provision for Environmental and Other Public Benefit Outcomes:
    - Recommendation: Integrate statutory provisions that prioritize environmental sustainability, drawing on frameworks like the WBCSD's Global Water Tool for corporate water stewardship. Source: WBCSD Global Water Tool.
4. Complete the Return of Overallocated Systems to Sustainable Levels:
    - Recommendation: Adopt rigorous and science-based approaches to restore overallocated systems, as exemplified by the Murray-Darling Basin Plan in Australia. Source: Murray-Darling Basin Plan.
5. Progressive Removal of Barriers to Water Trade:
    - Recommendation: Facilitate an open trading market, removing barriers and ensuring equitable access, inspired by successful models in countries like Chile. Source: World Bank Water Policy.
6. Clarity Around Assignment of Risk:
    - Recommendation: Establish clear guidelines for risk assignment related to water availability changes, ensuring businesses can adequately plan and adapt.
7. Water Accounting for Diverse Needs:
    - Recommendation: Implement comprehensive water accounting systems that cater to diverse regional needs, drawing on best practices from the United Nations World Water Development Report. Source: UN World Water Development Report.
8. Facilitate Water Use Efficiency and Innovation:
    - Recommendation: Promote policies that incentivize water use efficiency and innovation in both urban and rural areas, as seen in Singapore's water management strategies. Source: PUB Singapore.
9. Addressing Future Adjustment Issues:
    - Recommendation: Develop frameworks to support communities and industries in adapting to future water-related changes, ensuring minimal disruption and equitable transition.
10. Recognition of Surface and Groundwater Connectivity:

- Recommendation: Adopt integrated management practices for surface and groundwater, recognizing their interconnectivity, as advised by the OECD's principles. Source: OECD Water Governance.

Response to NWI Elements

1. Water Access Entitlements and Planning Frameworks:
    - Focus on creating robust, adaptable, and inclusive water entitlement and planning frameworks.
2. Water Markets and Trading:
    - Develop efficient and transparent water markets, ensuring fair trading practices.
3. Best-Practice Water Pricing and Institutional Arrangements:
    - Implement best-practice water pricing that reflects the true value of water resources.
4. Integrated Management for Environmental Outcomes:
    - Prioritize integrated water management to achieve environmental and public benefit outcomes.
5. Water Resource Accounting:
    - Enhance water resource accounting for better management and decision-making.
6. Urban Water Reform:
    - Advance urban water reform to address the challenges of urbanization and climate change.
7. Knowledge and Capacity Building:
    - Invest in knowledge sharing and capacity building for sustainable water management.
8. Community Partnerships and Adjustment:
    - Foster community partnerships and support adjustments in water policy implementation.
9. Integration of Technology for Water Efficiency
    - Leverage advanced technologies for enhancing water efficiency and conservation. This includes the use of smart water meters, IoT (Internet of Things) sensors, AI-driven predictive analysis for water usage, and remote sensing technologies. These technologies can significantly improve water management by providing real-time data, optimizing usage, and identifying leaks or inefficiencies.
    - **Successful Examples**:
        - **Israel's Water Management**: Israel is a global leader in water technology, particularly in the use of drip irrigation systems, which significantly reduce water usage in agriculture. Their integration of technology in water management has enabled them to overcome severe water scarcity. (Source: Israel Ministry of Foreign Affairs)
        - **Singapore's NEWater**: Singapore's NEWater project is an excellent example of using advanced technology for water recycling and conservation. The project uses microfiltration, reverse osmosis, and ultraviolet disinfection to turn wastewater into potable water. (Source: PUB Singapore)
        - **California's Smart Water Networks**: In California, USA, some cities have implemented smart water networks using IoT sensors and AI to monitor water systems in real-time, leading to significant reductions in water loss and improved efficiency. (Source: California Data Collaborative)
        - **Australia's Murray-Darling Basin Authority**: The use of satellite technology for water accounting in the Murray-Darling Basin has improved water management in agriculture, helping to balance water use between environmental needs and agricultural demands. (Source: Murray-Darling Basin Authority)

NWI Renewal Advice from National Water Reform 2020 Inquiry Report - BCSDA Response

A Refreshed Intent

1. Modernising the NWI Goal:
    - Recommendation: Include explicit references to climate change and Traditional Owners in the NWI goal. This aligns with global trends towards inclusive and environmentally conscious water management, as seen in the CEO Water Mandate's initiatives. Source: CEO Water Mandate.
2. Increasing Emphasis on Water Service Provision:
    - Recommendation: Detail water resource management and cultural outcomes in NWI objectives, drawing on best practices from the WBCSD's Global Water Tool. Source: WBCSD Global Water Tool.

Governance of the Agreement

1. Oversight by Water Ministers:
    - Recommendation: Regular convening of water ministers to oversee NWI development, ensuring alignment with evolving best practices and stakeholder needs.
2. Principles for Best-Practice Policy Approaches:
    - Recommendation: Adopt principles that are flexible and adaptable to different contexts, as advised by the OECD's guidelines on water governance. Source: OECD Water Governance.

Framework for Water Resource Management

1. Fit-for-Purpose Water Resource Management:
    - Recommendation: Embed the concept of fit-for-purpose management, ensuring adaptability to diverse regional water challenges.

Water Entitlements and Planning

1. Recommitment to Key Outcomes and Actions:
    - Recommendation: Strengthen water access entitlements frameworks, removing industry-specific exemptions and adopting a risk-based approach to significant interception activities.
2. Enhancing Water Planning Provisions:
    - Recommendation: Update water planning provisions to account for climate change, utilizing advanced modelling techniques and scenario planning.

Trading and Markets

1. Emphasising Efficiency in Water Trading and Markets:
    - Recommendation: Reshape principles to provide foundations for developing markets, ensuring efficiency and sustainability.

Environmental Management

1. Best-Practice Development of Environmental Objectives:
    - Recommendation: Adopt criteria for prioritising environmental watering and integrate management of environmental water with natural resource management.

Aboriginal and Torres Strait Islander People's Interests in Water

1. Co-Design of NWI Element for Indigenous Interests:
    - Recommendation: Engage in co-design processes with Aboriginal and Torres Strait Islander communities to improve cultural outcomes and access to water for economic development.

System Integrity

1. Building System Integrity:
    - Recommendation: Ensure system integrity through effective metering, measurement, and compliance systems.

Pricing and Institutional Arrangements

1. Maintaining Cost-Reflective Pricing:
    - Recommendation: Uphold principles of cost-reflective pricing and maintain performance monitoring for water service providers.

Urban Water Services

1. Updating Urban Water Planning Principles:
    - Recommendation: Embed updated urban water planning principles in the NWI, ensuring affordable access to basic water services.

Infrastructure Development

1. Guidance on Water Infrastructure Investment:
    - Recommendation: Develop criteria for infrastructure projects to demonstrate adherence to NWI requirements, ensuring economic viability and ecological sustainability.

Community Engagement and Adjustment

1. Guiding Principles for Community Adjustment:
    - Recommendation: Include principles for responding to community adjustment pressures resulting from policy-induced reductions in water availability.

Knowledge, Capacity, and Capability Building

1. Commitment to Evidence-Based Decision Making:
    - Recommendation: Foster a culture of innovation and continuous improvement in water management decision-making.

Terms of Reference – NWI - BCSDA Response

BCSD Australia advocates for these strategic approaches to realize the objectives of the NWI effectively, ensuring sustainable water management that benefits both the environment and the economy. Our recommendations are grounded in global best practices and data-driven insights, reflecting our commitment to sustainable development in the business sector.

Progress in Achieving NWI Objectives, Outcomes, and Timelines

1. **Achievement of NWI Objectives and Outcomes**:
    - **Insight**: While there has been progress in some areas, such as the development of water markets and improved planning frameworks, challenges remain in fully realizing the NWI's objectives. For instance, the integration of climate change impacts into water resource management is still evolving. The Global Water Tool by the World Business Council for Sustainable Development (WBCSD) exemplifies how businesses can contribute to this objective. Source: WBCSD Global Water Tool.
2. **Timelines and Implementation Challenges**:
    - **Insight**: The timelines set under the NWI have been ambitious, and in some cases, delays in implementation have occurred. These delays often stem from the complexities of aligning federal and state policies and the need for comprehensive stakeholder engagement. The OECD's work on water governance provides insights into overcoming these challenges. Source: OECD Water Governance.

Key Aspects of Water Security for Australia

1. **Sustainable Water Management**:
    - **Recommendation**: Emphasize sustainable water management practices, including efficient water use and conservation strategies. The approach adopted by Singapore's Public Utilities Board (PUB) in managing its water resources is a commendable example. Source: PUB Singapore.
2. **Involvement of Indigenous Communities**:
    - **Recommendation**: Strengthen the involvement of Aboriginal and Torres Strait Islander communities in water management, ensuring their cultural and economic interests are addressed. Co-designing water management strategies with these communities can lead to more inclusive and effective outcomes.
3. **Climate Change Adaptation**:
    - **Recommendation**: Integrate climate change adaptation into water resource management. This includes considering future climate scenarios in water planning and risk management, as highlighted in the United Nations World Water Development Report. Source: UN World Water Development Report.
4. **Innovative Water Technologies**:
    - **Recommendation**: Encourage the adoption of innovative water technologies and practices. For example, the use of advanced metering infrastructure (AMI) for water can enhance efficiency and reduce losses.
5. **Economic Viability and Ecological Sustainability**:
    - **Recommendation**: Ensure that water policies and projects balance economic viability with ecological sustainability. The Murray-Darling Basin Plan in Australia serves as a relevant example of managing water resources while considering ecological impacts. Source: Murray-Darling Basin Plan.

Specifically, we want to highlight the following critical points:

1. **Encouraging Investments in R&D for Water Management Technologies:** We think it is critical to consideration the importance of the following:
    - Foster Public-Private Partnerships:
        - Encourage collaborations between government bodies, academic institutions, and private sector companies. These partnerships can pool resources and expertise to drive innovation in water management technologies.
    - Government Grants and Incentives:
        - Governments should offer grants, tax incentives, and subsidies to organizations engaged in R&D for water management. This financial support can significantly reduce the risk associated with investing in new technologies.
    - Create Innovation Hubs:
        - Establish dedicated water technology innovation hubs or clusters. These hubs can act as incubators for start-ups and research initiatives focused on developing new water management solutions.
    - Promote International Collaboration:
        - Encourage international research collaborations and knowledge sharing. Global partnerships can lead to breakthroughs in water management technologies and practices, benefiting regions with varying water challenges.
2. Advocacy for Integrated Data Platforms in Water Management:
    - Development of Integrated Data Platforms:
        - Advocate for the creation of integrated data platforms that consolidate water-related information from various sectors. These platforms should be capable of aggregating data from utilities, government agencies, satellite imagery, and IoT sensors.
    - Standardization of Data Collection and Sharing:
        - Work towards standardizing data formats and protocols to ensure compatibility and interoperability between different data sources. This standardization is crucial for the effective integration and analysis of diverse data sets.
    - Public-Private Data Sharing Agreements:
        - Encourage agreements between public and private entities for data sharing. These agreements can enhance the comprehensiveness of the data available on the platforms, leading to more informed decision-making.
    - Leverage Advanced Analytics and AI:
        - Utilize advanced analytics and AI to analyse the collected data. These technologies can provide insights for predictive maintenance, demand forecasting, and identification of water system inefficiencies.
    - Ensure Data Security and Privacy:
        - Prioritize data security and privacy in the development of these platforms. Implement robust cybersecurity measures to protect sensitive information and build trust among stakeholders.

Background - BCSDA Response - Background and Context of Australian Water Sector Reform

1. **Historical Perspective**:

- **Insight**: The reform of the Australian water sector, initiated with the COAG water reform framework in 1994, represents a progressive recognition of water's multifaceted role in society and the environment. The evolution of these reforms, including the NWI and the Commonwealth Water Act 2007, underscores the sector's dynamic nature and the need for adaptive management strategies.

2. **Challenges in Water Management**:
    - **Insight**: Managing water as a shared natural resource in the context of climate change and scarcity is a complex challenge. It requires balancing ecological sustainability with economic and social needs. The Murray–Darling Basin Plan 2012 is a pertinent example of addressing these challenges through integrated water resource management. Source: Murray-Darling Basin Plan.
3. **Renewal of the NWI**:
    - **Opportunity**: The renewal of the NWI presents an opportunity to incorporate contemporary issues such as climate change adaptation, technological advancements, and the involvement of Indigenous communities in water management. The Global Water Tool by the World Business Council for Sustainable Development (WBCSD) exemplifies how businesses can contribute to sustainable water management. Source: WBCSD Global Water Tool.

Water Security as a Key Driver of National Water Reform

1. **Enhancing Water Security with Innovative Practices:**
    - Focus on improving water security through innovative management, efficient use, and conservation strategies. Emulate Singapore's Public Utilities Board (PUB) model, which includes recycling wastewater, harvesting rainwater, and desalination. **(Source: PUB Singapore)**
    - **Incorporate Nature-Based Solutions:** Implement nature-based solutions like reforestation, wetland restoration, and green infrastructure. These practices contribute to water conservation, quality management, and ecosystem resilience, thereby enhancing water security.
2. **Integrating Climate Change Impacts:**
    - Integrate the impacts of climate change into water resource management and planning. Use advanced modelling and scenario planning to anticipate and mitigate these impacts, as recommended in the United Nations World Water Development Report. **(Source: UN World Water Development Report)**
    - **Climate-Resilient Nature-Based Solutions:** Include climate-resilient nature-based solutions in planning to buffer against climate variability and extremes, such as floods and droughts, while maintaining ecosystem health.
3. **Engagement with Indigenous Communities:**
    - Strengthen the involvement of Aboriginal and Torres Strait Islander communities in water management. Co-design strategies with these communities to ensure their cultural and economic interests are respected and integrated.
    - **Leverage Traditional Knowledge:** Utilize indigenous knowledge of natural water systems, which can offer valuable insights into sustainable and nature-based water management practices.
4. **Adaptive Management and Technological Innovation:**
    - Adopt adaptive management practices and embrace technological innovations. Implement Advanced Metering Infrastructure (AMI) for real-time water use monitoring, leak detection, and efficient resource management.
    - **Technology in Support of Nature-Based Solutions:** Use technology to monitor and evaluate the effectiveness of nature-based solutions. For example, remote sensing and GIS technologies can be used to track changes in forest cover, wetland health, and green infrastructure performance.

Scope of the Inquiry - BCSDA Response

BCSD Australia advocates for these strategic approaches to realize the objectives of the NWI effectively, ensuring sustainable water management that benefits both the environment and the economy. Our recommendations are grounded in global best practices and data-driven insights, reflecting our commitment to sustainable development in the business sector.

Assessment of Progress in Jurisdictional Adoption of NWI Principles

1. **Jurisdictional Adoption of NWI Principles**:
    - **Insight**: There has been variable progress in the adoption of NWI principles across jurisdictions. Key challenges include aligning state and federal policies and addressing specific regional water management needs. The OECD's work on water governance offers insights into overcoming these challenges. Source: OECD Water Governance.
2. **Opportunity Costs of Non-Adoption**:
    - **Insight**: The opportunity costs of not fully implementing NWI principles include reduced water security, economic inefficiencies, and environmental degradation. The Global Water Tool by the World Business Council for Sustainable Development (WBCSD) can help in understanding these costs. Source: WBCSD Global Water Tool.

Outcomes of the NWI and Related Water Reform Efforts

1. **Evaluating Outcomes to Date**:
    - **Recommendation**: Conduct a comprehensive evaluation of the outcomes of the NWI and related reforms, considering economic, environmental, social, and cultural impacts. The Murray–Darling Basin Plan provides a relevant case study for such an evaluation. Source: Murray-Darling Basin Plan.
2. **Other Reform Drivers**:
    - **Insight**: Consider other drivers of water reform, such as climate change, technological advancements, and evolving societal values, as highlighted in the United Nations World Water Development Report. Source: UN World Water Development Report.

Implications for Key Water Security and Management Challenges

1. **Addressing Water Security Challenges**:
    - **Recommendation**: Focus on innovative water management practices, efficient use, and conservation strategies. The approach adopted by Singapore's Public Utilities Board (PUB) offers a model for effective water security management. Source: PUB Singapore.
2. **Economic, Environmental, Social, and Cultural Implications**:
    - **Recommendation**: Ensure that water reform policies balance economic viability with ecological sustainability and social equity, including the cultural rights of First Nations communities.
3. **Investment in Advanced Technology and Infrastructure**
    - **Critical Investment**: There is a need for substantial investments in technology and infrastructure to enhance water security and management. This includes upgrading existing water systems and incorporating advanced technologies.
    - **Advanced Metering Infrastructure (AMI)**: Invest in AMI and IoT technologies for real-time monitoring and management of water resources, leading to improved efficiency and reduced losses.
    - **Modernization of Infrastructure**: Modernize water infrastructure to cope with current demands and future challenges, including the impacts of climate change.
4. **Support for Research and Development**
    - **Funding for Innovation**: Allocate funds for research and development in water technology. This can lead to breakthroughs in areas like water recycling, desalination, and efficient irrigation systems.
    - **Public-Private Partnerships**: Encourage public-private partnerships to foster innovation and investment in water technology and infrastructure.
5. **Sustainable and Resilient Infrastructure**
    - **Eco-Friendly Design**: Design infrastructure that is sustainable and resilient, minimizing environmental impact while maximizing efficiency.
    - **Adaptation to Climate Change**: There is a need to ensure that water infrastructure is adaptable to climate change, capable of withstanding extreme weather events.
6. **Integration of Nature-Based Solutions**
    - **Complementing Traditional Infrastructure**: The role and use of nature-based solutions alongside traditional infrastructure to enhance water quality, conservation, and ecosystem health.
    - **Cost-Effective and Sustainable**: Recognize that nature-based solutions can be a cost-effective and sustainable alternative or complement to conventional infrastructure.
7. **Inclusive Planning and Development**
    - **Stakeholder Engagement**: Involvement of a broad range of stakeholders, including local communities and indigenous groups, in planning and implementing technology and infrastructure projects.
    - **Cultural and Social Considerations**: The need to ensure that infrastructure development respects cultural sites and social norms, particularly in areas inhabited by indigenous and local communities.

Recommendations for Action

1. **Actions for Achieving NWI Objectives**:
    - **Recommendation**: Develop actions that enhance collaboration between federal and state governments and the private sector, promote sustainable water use, and integrate climate change adaptation into water resource management.
2. **Supporting National Water Reform**:
    - **Recommendation**: Advocate for policies that incentivize innovation in water management and recognize the importance of water security in national economic and environmental strategies.
3. **Utilizing the Water Act for National Water Reform Policy**:
    - **Recommendation**: Leverage the Water Act 2007 to establish a robust framework for sustainable water management, integrating global best practices and technological innovations.
4. **Incorporate Economic Incentives in Achieving NWI Objectives**:
    - **Recommendations**:

1. **Subsidy Programs**: Implement subsidy programs for businesses and organizations that adopt sustainable water management practices. These subsidies can help offset the initial costs of implementing water-efficient technologies and practices.
2. **Fiscal Incentives**: Offer fiscal incentives to companies that demonstrate significant efforts in reducing water consumption and improving water efficiency. This could include deductions or credits for investments in sustainable water infrastructure.

5. **Economic Incentives in Supporting National Water Reform:**
   - Recommendations:
     1. **Grants for Innovation**: Provide grants to support research and development in innovative water management technologies and practices. These grants can encourage businesses and research institutions to focus on pioneering solutions for water conservation and management.
     2. **Rewarding Sustainable Practices**: Establish a recognition or certification program for businesses that excel in sustainable water use, which can enhance their market reputation and potentially lead to economic benefits.
6. **Utilizing Economic Incentives under the Water Act for National Water Reform Policy:**
   - Recommendations:
     - **Financial Support for Compliance**: Offer financial assistance or incentives to entities for aligning with sustainable practices as outlined in the Water Act 2007. This can ease the transition for businesses and industries towards more sustainable water management in compliance with national policies.
     - **Public-Private Partnerships**: Encourage public-private partnerships to invest in sustainable water infrastructure, supported by economic incentives. These partnerships can leverage private sector innovation and efficiency, along with public sector resources and regulatory support.

BCSDA Final Response and Recommendation

Water security is undeniably a critical driver of national water reform in Australia. The challenges posed by climate change, population growth, and the need for sustainable water management necessitate a comprehensive and adaptive approach. The NWI, along with subsequent reforms, has laid a foundation for addressing these challenges. However, there is a need for continuous evolution of these policies to meet the dynamic nature of water security challenges.

Recommendations for the Productivity Commission (PC)

1. **Enhanced Integration of Climate Change and Sustainability**:
   - **Recommendation**: Modernize the NWI to explicitly include climate change impacts and sustainability principles. This approach could include drawing on global initiatives like the CEO Water Mandate and the WBCSD's Global Water Tool, which emphasize corporate responsibility in water management. Source: CEO Water Mandate, WBCSD Global Water Tool.
2. **Collaborative and Inclusive Water Governance**:
   - **Recommendation**: Foster collaborative governance models that include all stakeholders, particularly Indigenous communities, in water management decisions. This aligns with the principles outlined by the OECD in its water governance guidelines. Source: OECD Water Governance.
3. **Adaptive Management and Technological Innovation**:
   - **Recommendation**: Encourage the adoption of adaptive management practices and technological innovations. The Singapore Public Utilities Board's (PUB) approach to water management serves as an exemplary model in this regard. Source: PUB Singapore.
4. **Economic, Environmental, and Social Balance**:
   - **Recommendation**: Ensure that water reform policies balance economic viability with ecological sustainability as well as social equity. The Murray–Darling Basin Plan provides a relevant example of managing water resources while considering ecological impacts. Source: Murray-Darling Basin Plan.
5. **Utilizing the Water Act 2007 for Comprehensive Reform**:
   - **Recommendation**: Leverage the Water Act 2007 to establish a robust framework for sustainable water management, integrating global best practices and technological innovations.

Conclusion

In conclusion, BCSD Australia advocates for a strategic and adaptive approach to water reform, aligning with global best practices and the evolving needs of the Australian context. Our recommendations are grounded in evidence-based insights and reflect our commitment to sustainable development in the business sector. We emphasize the importance of collaborative governance, the integration of climate change impacts, technological innovation, and the balancing of economic, environmental, and social factors in achieving comprehensive water security and sustainable management in Australia.