

Evolving Remediation Practice in Australia

Advancing environmental restoration



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Overview and Presenter Introduction

Trends in Australian Remediation - complex challenges including diverse site conditions and regulatory variations

Regulatory Landscape - federated regulatory structures

Best Practices in Remediation Planning - to improve effectiveness and sustainability in remediation projects.

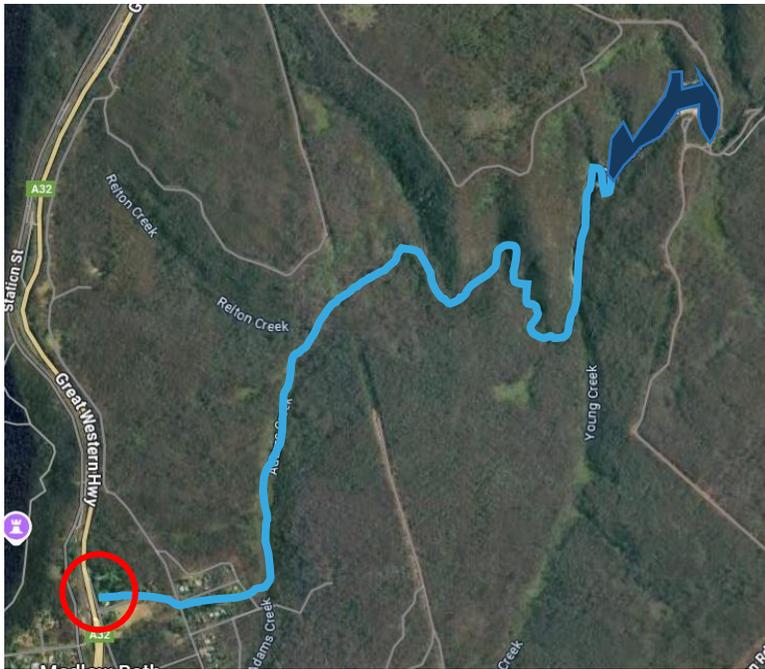
International Relevance - Australian remediation practices offer insights.



Trends in Australian Remediation

Trends & Themes

Contaminant Focus



The Cascade Water Plant is being upgraded to filter PFAS. (Supplied: NSW Government)



Trends & Themes

Contaminant Focus

Redevelopment Integration: Increased Due Diligence



NSW Auditor-General finds government bought contaminated land at Camellia without a valuation

Tue 18 May 2021

"The lack of analysis and due diligence to support the level of financial offer and the approach to environmental contamination risk constitutes poor governance and ineffective administration," Ms Crawford wrote.

The department could not explain or justify why it accepted the risk and costs of contamination unconditionally, and didn't commission any advice on remediation costs until after the acquisition was finalised.

The department has since entered into contracts worth \$106.9 million for environmental remediation.

Trends & Themes

Contaminant Focus

Redevelopment Integration: Increased Due Diligence

Mine Closure

Trends & Themes

Mine Closure

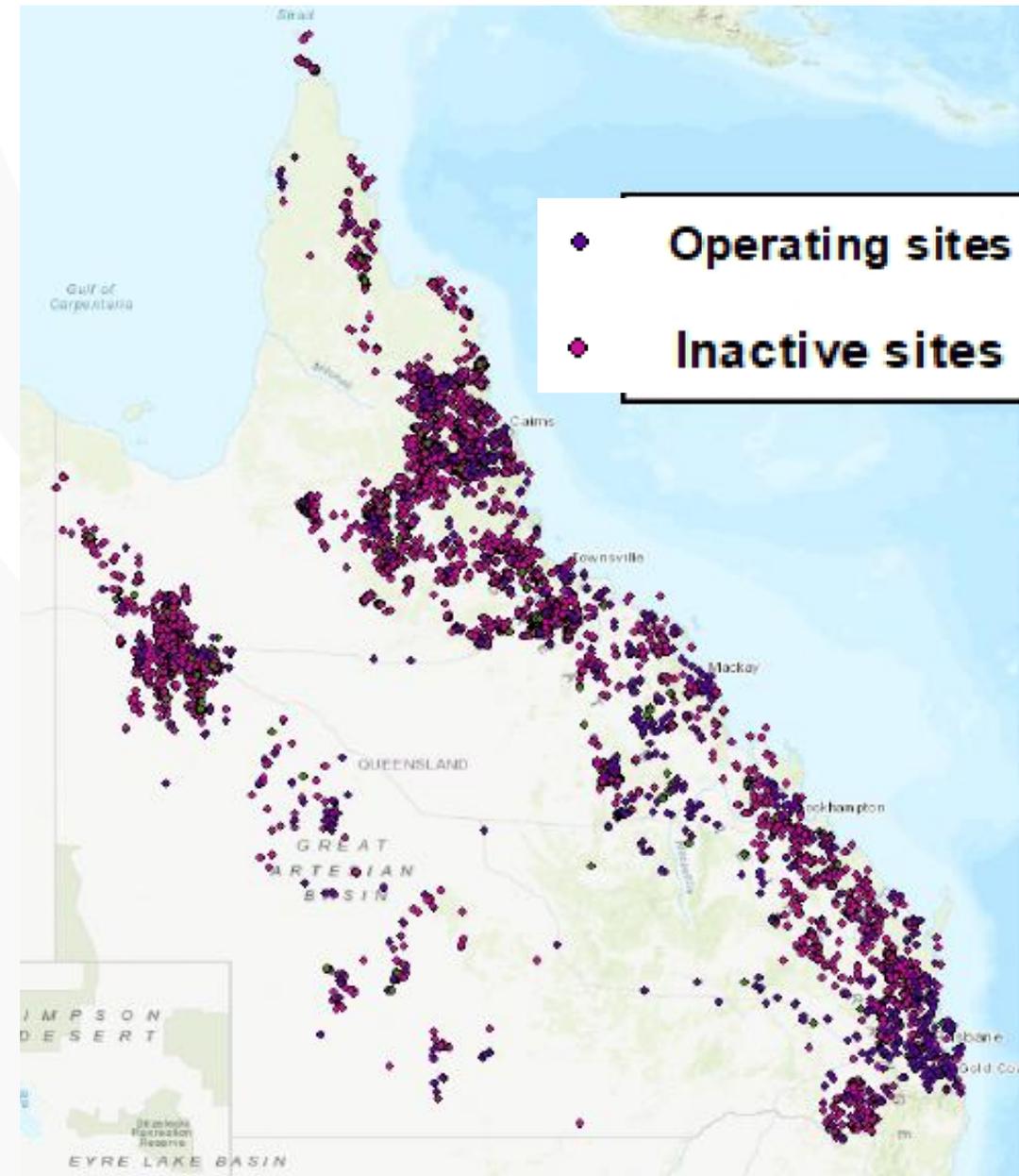
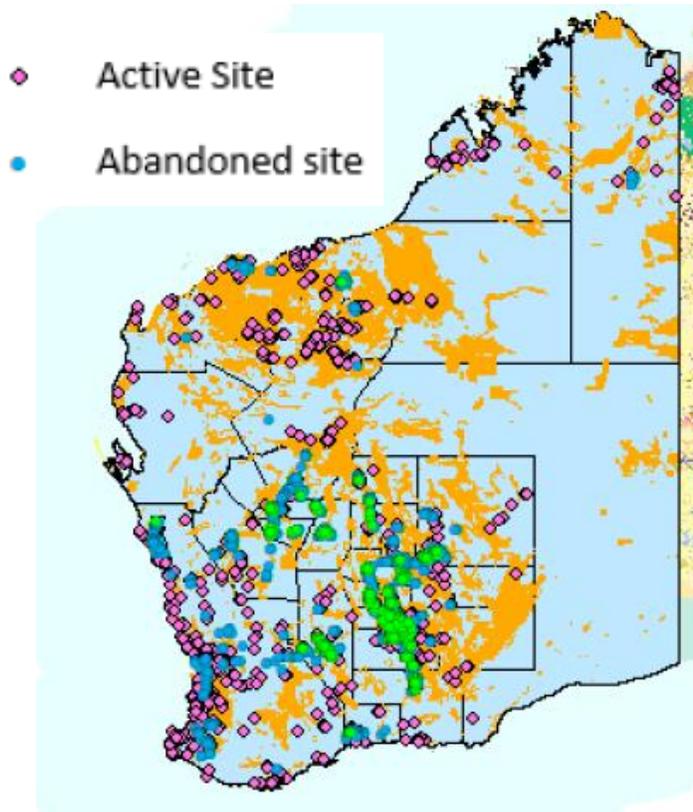
PROGRESSIVE REHABILITATION AND CLOSURE PLAN (PRCP)



Mine Closure: PRCP

Active mines: 600 in QLD / 1,800 in WA

Abandoned mines: 1,400 in QLD / 23,000 in WA



Trends & Themes

Contaminant Focus

Redevelopment Integration: Increased Due Diligence

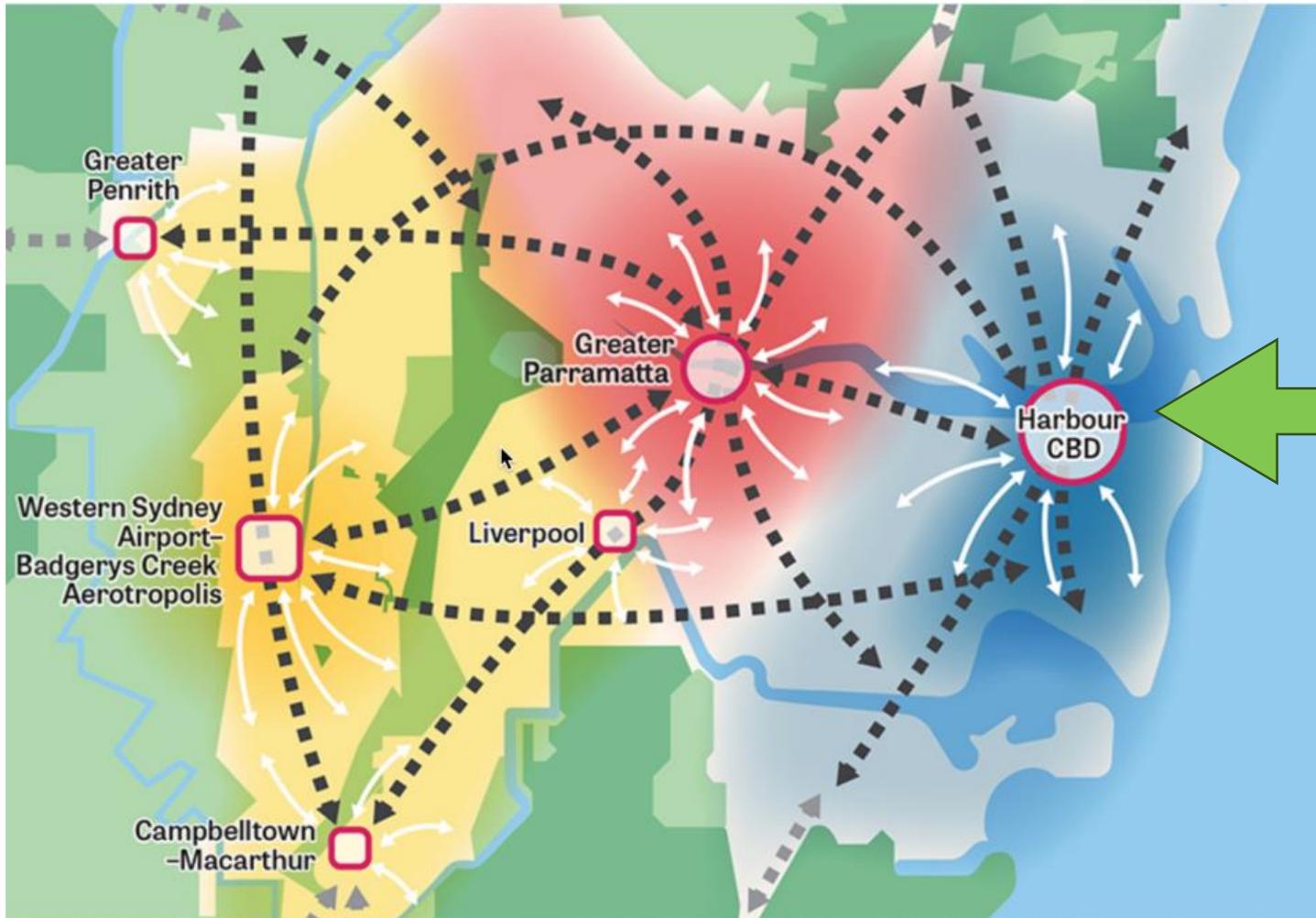
Mine Closure

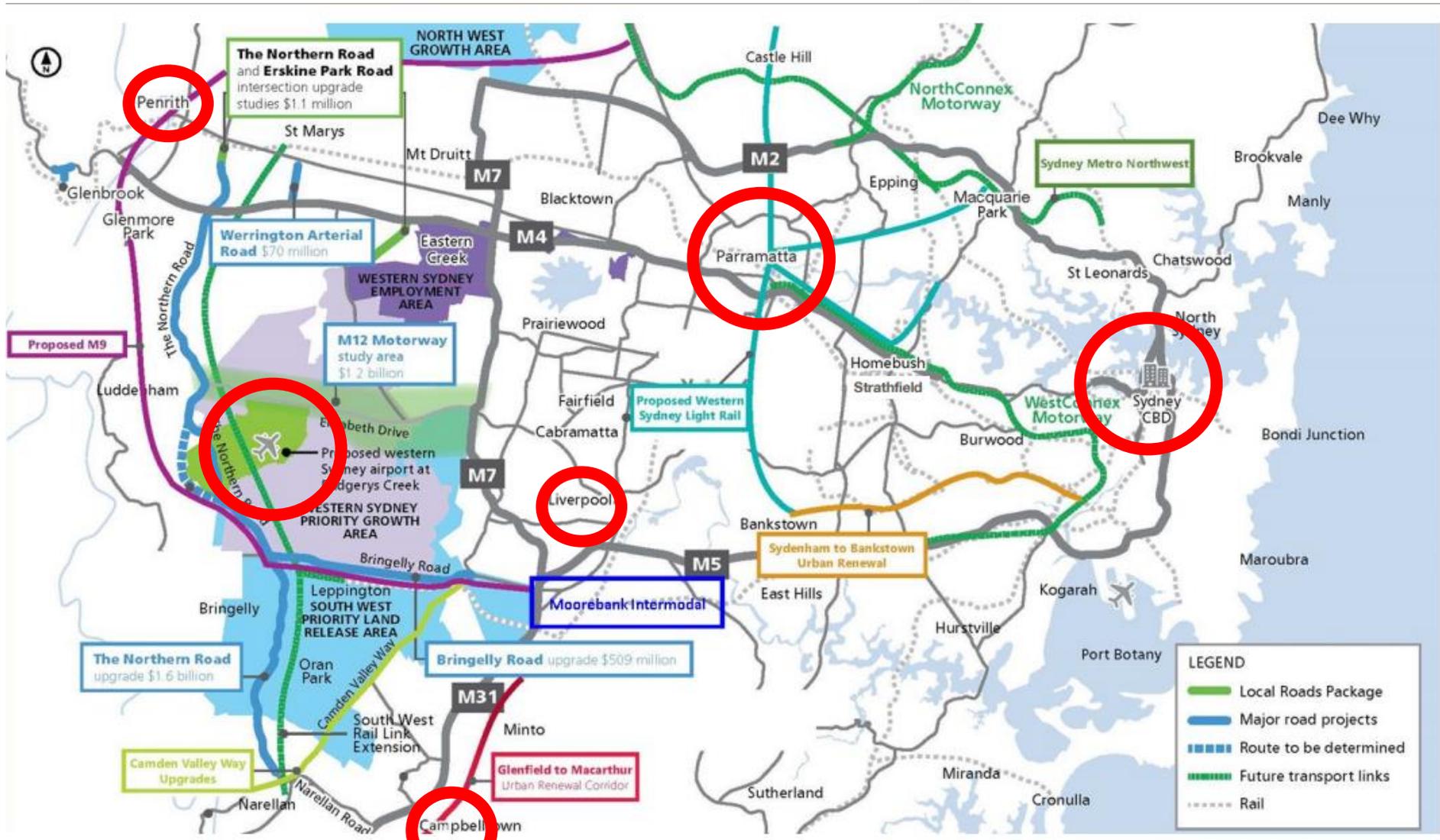
Infrastructure Expansion



Infrastructure Expansion

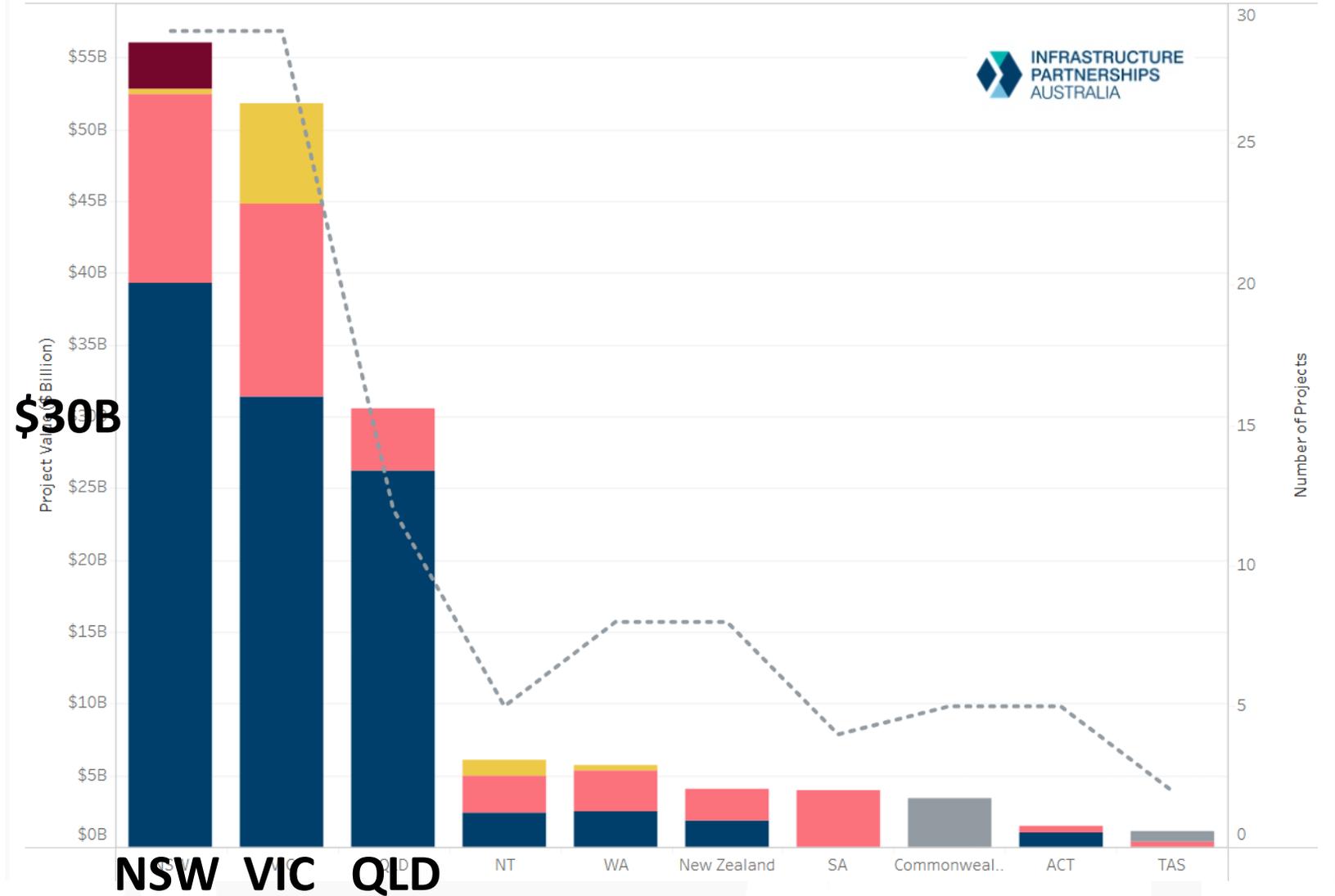
PPP for Transport sector is a mature and accepted model in NSW / VIC / QLD (Eastern states)





Partners Collaborating

Public Private Partnerships By Jurisdiction

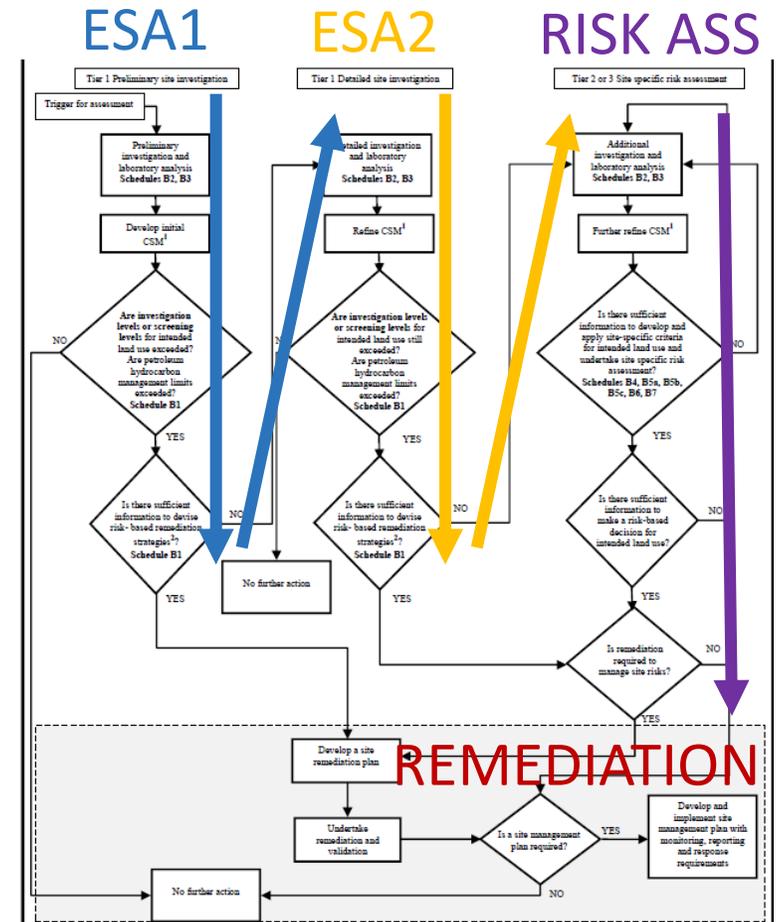


ENERGY OTHER UTILITIES SOCIAL TRANSPORT

INFRASTRUCTURE



Regulatory Landscape



Fragmented Regulatory Landscape

Inconsistent State Regulations & Policy

Regulatory Discrepancies Impact

Need for Harmonization

**1 Federal / Commonwealth /
Australian Government**



**6 State and 2 Territory
governments**



~ 560 local governments



Sustainability and Circular Economy in Remediation

Lifecycle Cost Considerations

Carbon Impact Reduction

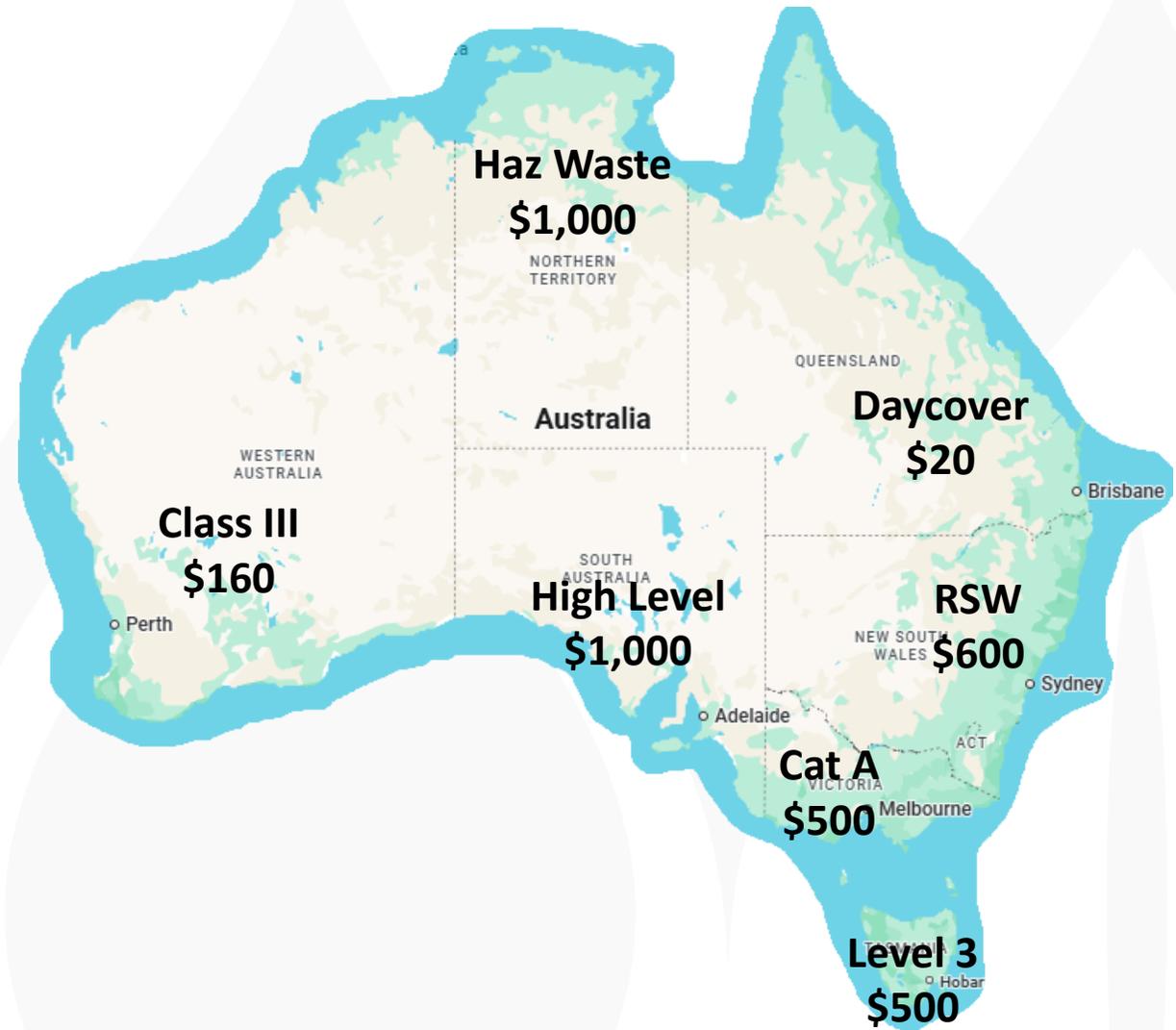
Material Reuse and Recycling

Holistic Sustainable Design



Fragmented Landscape: Variation in Remediation Approach

Soil with a concentrations of **PAHs**
450 mg/kg; assume low leachability



Navigating Approvals

Challenges of Regulatory Approvals

Proactive Engagement

Flexible Design Frameworks

Collaborative Relationships





Brisbane 2032



Best Practice in Remediation Planning

RAPs: Strategy Vs. Design

Flexible Strategy Approach

Avoid Premature Design Lock-In

Incorporate Sustainability and Cost

Dynamic Planning Importance

RAPs: Strategy Vs. Design

Remediation strategy & litigation

Thiess Services Pty Ltd v Mirvac Queensland Pty Ltd [2006] QCA 50 involved a dispute between a Contractor (Theiss) and a principal (Mircvac) as to the remediation of a contaminated package of land.

The lump sum contract stated: **‘The primary objective of the project is to fully remediate the contaminated material in order to render the entire site suitable for any land use’**

It subsequently became apparent to Theiss, that the remediation would be significantly more difficult and expensive to achieve than it had accounted.



Designing with the right data

Importance of Site-Specific Data

Risk Based Approach

Risks of Using Groundwater Data Alone

Early Treatability Trials

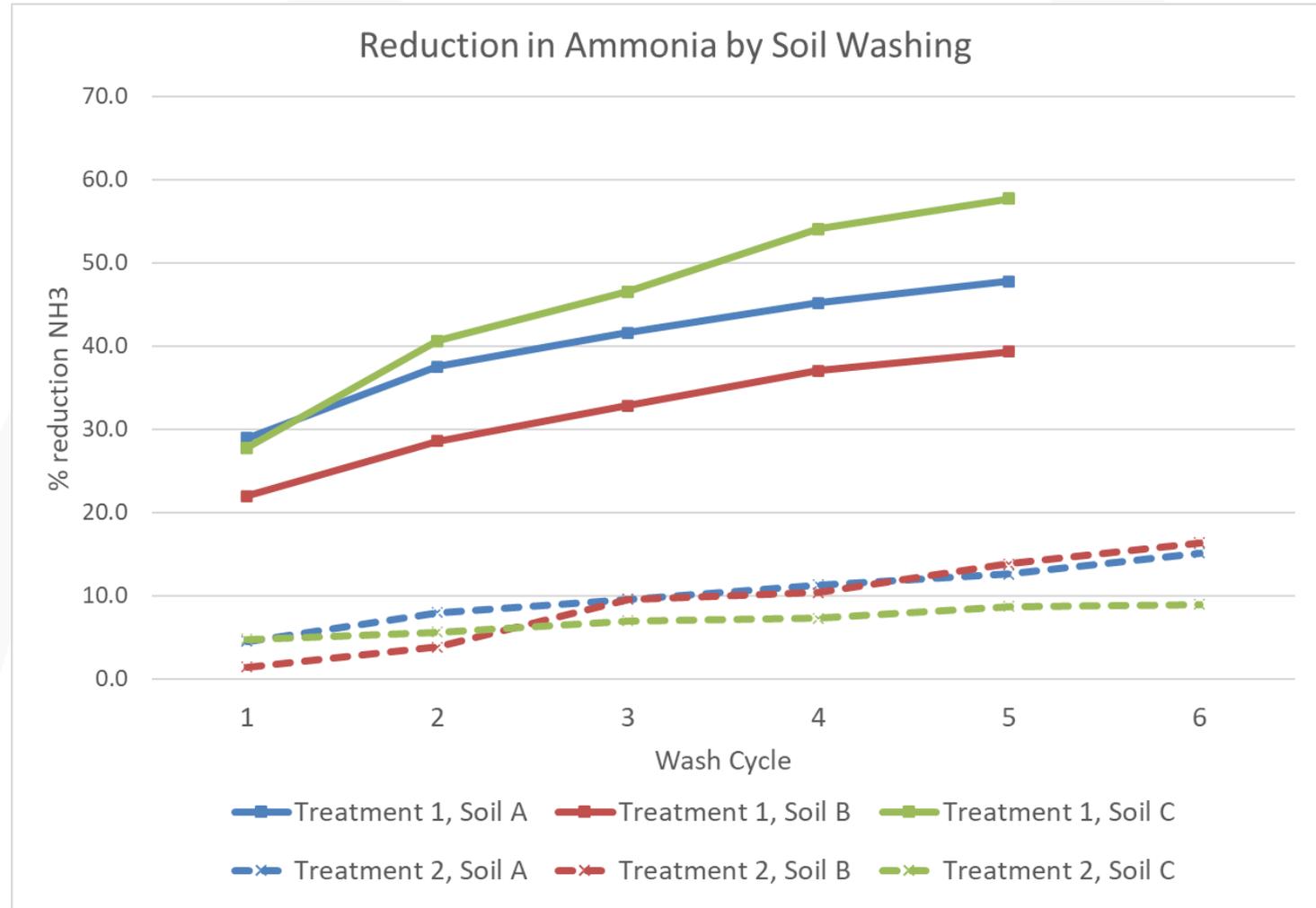
Proactive Remediation Planning



Designing with the right data



Early Treatability Trials



International Relevance

Lessons for Canada and Global Practitioners

Federated Regulatory Structure

Australia's federated structure parallels Canadian provinces, providing relevant case studies for remediation challenges.

Innovative Adaptive Solutions

Practitioners balance strict standards with practical, adaptive remediation methods in fragmented regulatory environments.

Encouraging Best Practices

The presentation urges international stakeholders to adopt adaptive remediation practices for effective outcomes.





MONTROSE
ENVIRONMENTAL

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