

Alternative Management and Funding Models for Sustainable O&M of WSUD Infrastructure

15/180 – Cabinet Discussion Paper to the
Economic and Urban Renewal Sub-committee of
Cabinet



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Background – ACT WSUD Review (2014)

- The ACT Government's Water Sensitive Urban Design Review Report (2014) identifies **16 issues** with a suite of findings and recommendations. To deal with the issues relating to the implementation of water sensitive urban design (WSUD) **eight priority projects** were identified.
- 15/180 Cabinet Discussion Paper will address Priority Project 2: Alternative Management and Funding Models. The ACT WSUD Review identified that *“Environment and Planning Directorate, Territory and Municipal Services and Chief Ministers, Treasury and Economic Development Directorate work together to investigate alternative management and funding models for sustainable maintenance of WSUD assets, informed by cost-benefit analysis”*.

Water Sensitive Urban Design

Review report



AUGUST 2014



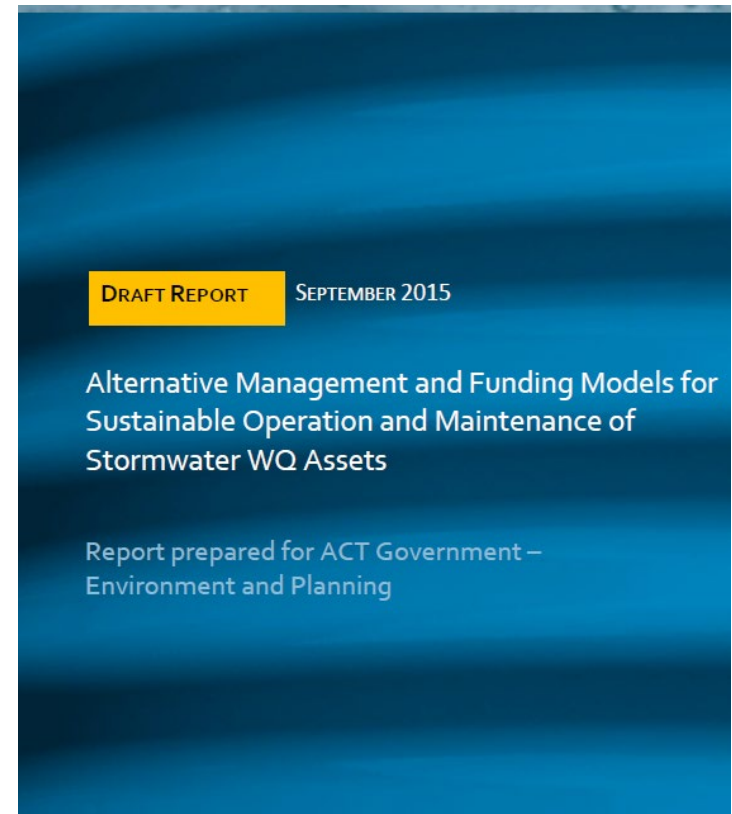
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Background – Marsden Jacob’s Report (2015)

- A report by Marsden Jacob’s was commissioned by the Environment and Planning Directorate (EPD) to look at this project.
- The scope of work carried out looks at the issues with current management and funding arrangements for WSUD assets and also looks at the ACT Basin Priority Project, which will see an increase in a number of municipal water quality infrastructures.
- The Final Draft Report provides a number of recommendations in improving current management and funding arrangements.



MARSDEN JACOB ASSOCIATES

Overview of Scope of Works: Alternative Management and Funding Models

- I. Overview of current management (including administrative and operational arrangements) of assets and how funding is allocated.
- II. SWOT Analysis of the current situation, identifying opportunities for efficiency gains.
- III. Likely impact of current management on the Basin Priority Project.
- IV. Alternative funding and management model overview (minimum of 5 national and 5 international arrangements) assessed against a triple bottom line approach.
- V. Scenario analysis of alternative funding and management models and current opportunities. This will allow the government to assess the alternative management and funding mechanism recommendations under different circumstances.
- VI. Advice on administrative and regulatory implications of alternative funding and management model.
- VII. The top ranked scenarios and their potential impact on the Basin Priority Project.



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Marsden Jacob's Report (2015): Key Players and Cross Directorate Consultation

- Current ACT institutional water arrangements

Figure 1: ACT WSUD and stormwater institutional arrangements



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Marsden Jacob's Assessment Framework: Management Criteria

| Principle | Key principle | Key criteria tests |
|---------------------------------------|---|---|
| Management criteria | | |
| Strategy and alignment | There should be appropriate and clear documentation containing the objectives for water quality asset O&M activities undertaken by or for the ACT Government. The management structure should support the objectives for water quality O&M in the ACT. | <ul style="list-style-type: none"> Objectives for WQ O&M activities clearly documented WQ objectives clearly understood and enabled by staff Alignment and consistency of objectives, outputs and KPIs |
| Structure and responsibilities | The management structure should support the collective institution's authority to deliver on WQ O&M through providing clarity of roles and responsibilities. There should be clear lines of accountability for performance. The rules, guidelines and regulatory requirements necessary to enable decision making should be in place. | <ul style="list-style-type: none"> Clarity of roles and responsibilities Authority, decision making and accountability |
| Transparency | The management structure should promote procedural and operational transparency. There should be clear, consistent reporting on activities and outcomes. Reporting should be accessible to stakeholders and easily understood. | <ul style="list-style-type: none"> Reporting requirements Reporting frequency Accessibility to key stakeholders |



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Marsden Jacob's Assessment Framework: Funding Criteria

| Principle | Key principle | Key criteria tests |
|--|---|---|
| Funding mechanism criteria | | |
| Efficient cost recovery | Funding mechanism(s) should recover efficient, full direct costs of operating and maintaining WQ assets, providing revenue adequacy and stability. | <ul style="list-style-type: none"> All efficient costs identified Charges avoid monopoly rents Ensure operational viability Cross-subsidies are transparent |
| Cost allocation and sharing | Funding mechanisms should apply user pays principles as a basis for cost allocation and sharing. In other words, the share of WSUD costs recovered through direct contributions should be proportional to the beneficiary, in principle. | <ul style="list-style-type: none"> User pays approach used when allocating costs Cost share based on cost drivers. |
| Administrative efficiency | Funding mechanisms should provide incentives | <ul style="list-style-type: none"> Simple and low cost to administer Incentivise ACT Government O&M operational efficiency and effectiveness Avoid perverse outcomes |
| Transparency and accountability | The calculation basis for charges underpinning a WSUD funding mechanism should be clear. | <ul style="list-style-type: none"> Transparent, easy to calculate, understandable to users and published Reviewed on a regular basis |



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Example of Assessment Framework:

Management Criteria: Strategy and alignment

| Key criteria tests | MJA assessment of performance against tests | | |
|---|---|--------|------|
| | LOW | MEDIUM | HIGH |
| Appropriate and clear documentation of stormwater WQ asset O&M objectives | | ● | |
| Stormwater WQ objectives clearly understood by staff | | ● | |
| Alignment and consistency of objectives, outputs and KPIs | | ● | |
| Overall assessment against criteria | | ● | |

Funding Criteria: Cost Recovery

| Key criteria tests | MJA assessment of performance against tests | | |
|--|---|--------|------|
| | LOW | MEDIUM | HIGH |
| All efficient costs identified | | ● | |
| Charges avoid monopoly rents | | | ● |
| Ensure operational viability | | ● | |
| Cross-subsidies are transparent | | | ● |
| Overall assessment against criteria | | ● | |



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Breakdown of Current Funding Arrangements

- Capital value of stormwater water quality assets in the ACT is estimated to be \$594,872,509.
- There are two distinct approaches for recurrent WSUD and stormwater O&M funding in the ACT. Determination of funding for estate assets and the other is for core capital works.
- O&M for stormwater assets is included in the total Roads ACT O&M expenditure.
- TAMS are not in a position to provide a comprehensive record of actual expenditure on stormwater quality assets on O&M activities.
- Parks and Territory Services (PATS) are responsible for the 'soft' infrastructure of O&M of stormwater quality assets in the Territory.



Grace



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Extract from Marsden Jacob's Report

- *“The ACT Government has not systematically recorded detailed operation and maintenance (O&M) expenditure for stormwater WQ assets. This is a problem because the adequacy, effectiveness and efficiency of funding cannot be assessed definitely without that detail*
- *Funding of approximately **\$6.8m** per year is required to operate and maintain the existing stormwater WQ asset base in the ACT in line with recent engineering advice received by the ACT Government. **Over the last two years, around \$2.5m** was spent each year on the O&M of stormwater WQ assets. **Almost all of that was split between cleaning out Gross Pollutant Traps and operating a fleet of streetsweepers.***



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Extract from Marsden Jacob's Report (cont.)

- *This implies a current annual funding shortfall of up to \$4.3m. But, the lack of a detailed expenditure records, and no public reporting mechanisms on how O&M funds were allocated and/or spent means that we can't be certain. One of the first reforms the ACT Government should make is to address this weakness."*



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Relationship to the ACT Basin Priority Project: Canberra Clean Water

- The Marsden Jacob Final Draft Report identified that there would need to be an increase of O&M funding for the ACT BPP's assets to ensure the effectiveness and efficiencies of these water quality infrastructure.
- The ratio of ideal O&M expenditure to capital value of existing stormwater water quality assets in the ACT and its future forecast taking into account the ACT BPP assets and future housing stock, coupled with some other key assumptions made by Marsden Jacob is provided in the report (section. 4.3.2).

| Asset type | Ratio |
|----------------------|--------|
| Lakes | 0.31% |
| Ponds & wetlands | 0.40% |
| Raingardens & swales | 2.17% |
| GPTs | 4.50% |
| Vegetated waterways | 6.59% |
| Cutoff drains | 0.52% |
| Retarding basins | 16.73% |
| Pervious paving | 7.50% |

(Refer to the key assumptions to inform this table, Section 4.3.2, Source: Marsden Jacob, 2015, p. 19)

Alternative Models: Options 1 to 4

| Model Option | Model Description | Asset ownership | O&M | Contract out? | Funding model | Funding source | Funding mechanism |
|--------------|---|-----------------|----------------|---------------|----------------------------------|---|-----------------------------------|
| 1 | Refine current arrangements: Current arrangements for management and funding of stormwater WQ assets in the ACT is maintained, with a number of refinements to improve efficiency and accountability. | ACT Government | ACT Government | Partial | Existing approach | Consolidated revenue | General taxation |
| 2 | Hypothecate WAC: Funding for stormwater WQ asset O&M would be sourced from a hypothecated share of the Water Abstraction Charge (WAC). | ACT Government | ACT Government | Partial | Share of capex or building block | WAC | Existing mechanisms for WAC |
| 3 | Cost-reflective stormwater charge: ACT Government introduces a stormwater charge to fund prudent and efficient expenditure on the O&M of stormwater WQ assets in the ACT. | ACT Government | ACT Government | Partial | Building block | Fixed or variable property-based charge | Property rates or Icon Water bill |
| 4 | Developer charge: Raise upfront O&M funding for newly constructed stormwater WQ assets under Estate Development Plans in the ACT. | ACT Government | ACT Government | Partial | NPV Building block | Developer charge | New Developer Charge |

Alternative Models: Options 5 to 8

| Model Option | Model Description | Asset ownership | O&M | Contract out? | Funding model | Funding source | Funding mechanism |
|--------------|--|-----------------|----------------------------|---------------|--------------------|---|-----------------------------------|
| 5 | Stormwater Utility: Establish a distinct stormwater department within TAMS with responsibility to approve, accept, operate, maintain and renew stormwater assets in the ACT. | ACT Government | ACT Government | Partial | Building block | Fixed or variable property-based charge | Property rates or Icon Water bill |
| 6 | Transfer stormwater assets to Icon Water: Stormwater assets transferred to the existing asset base of Icon Water, thereby permitting Icon Water to impose a stormwater charge. Icon Water responsible for O&M functions. | Icon Water | Icon Water | Partial | Building block | Fixed or variable property-based charge | Property rates or Icon Water bill |
| 7 | Long-term performance based O&M contract: ACT Government enters into a long-term O&M contract with a third party service provider. | ACT Government | Contractor | Full | Competitive tender | Multiple options | Multiple options |
| 8 | Long-term lease of stormwater assets: ACT Government would enter into a long-term arrangement with a private sector investor, who takes ownership of the stormwater WQ assets in the ACT for the period of the lease, in return for a lump-sum payment to the ACT Government. O&M funded by annual payment to owner. | Private sector | Private sector asset owner | Full | Lease negotiations | Stormwater charge | Property rates or Icon Water bill |



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Options Against Best Practice Principles

Criteria: Multi Criteria Assessment

| Criteria | Options | | | | | | | |
|---|---------|--------|--------|--------|--------|--------|--------|--------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| Overall ranking of option against all criteria | Red | Red | Green | Yellow | Green | Green | Yellow | Yellow |
| <i>Ranking against management criteria</i> | | | | | | | | |
| Structure and responsibilities - overall ranking | Yellow | Yellow | Yellow | Yellow | Yellow | Green | Green | Green |
| Clarity of roles and responsibilities | Red | Red | Red | Red | Yellow | Green | Green | Green |
| Authority, decision making and accountability | Yellow | Yellow | Green | Green | Green | Green | Green | Green |
| Transparency - overall ranking | Yellow | Yellow | Green | Red | Yellow | Green | Green | Yellow |
| Reporting requirements | Yellow | Yellow | Green | Red | Yellow | Green | Green | Yellow |
| Reporting frequency | Yellow | Yellow | Green | Yellow | Yellow | Green | Green | Yellow |
| Accessibility to key stakeholders | Red | Yellow | Green | Red | Green | Green | Yellow | Red |
| <i>Ranking against funding criteria</i> | | | | | | | | |
| Efficient cost recovery - overall assessment | Red | Red | Green | Yellow | Green | Green | Yellow | Yellow |
| All efficient costs identified | Red | Red | Green | Yellow | Green | Green | Green | Green |
| Charges avoid monopoly rents | Red | Red | Green | Yellow | Green | Green | Green | Green |
| Ensure operational viability | Red | Red | Green | Red | Green | Green | Yellow | Red |
| Cross-subsidies are transparent | Red | Red | Green | Yellow | Green | Green | Red | Red |
| Cost allocation and sharing - overall assessment | Red | Red | Green | Yellow | Green | Green | Yellow | Yellow |
| User pays approach used when allocating costs | Red | Red | Green | Yellow | Green | Green | Yellow | Yellow |
| Cost share based on cost drivers | Red | Red | Green | Yellow | Green | Green | Yellow | Yellow |
| Administrative efficiency - overall assessment | Red | Yellow | Yellow | Yellow | Green | Yellow | Yellow | Green |
| Simple and low cost to administer | Yellow | Green | Yellow | Yellow | Green | Red | Red | Green |
| Incentivise ACT Government O&M operational efficiency and effectiveness | Red | Red | Green | Red | Yellow | Green | Green | Green |
| Avoid perverse outcomes | Red | Red | Red | Green | Green | Yellow | Yellow | Yellow |
| Transparency and accountability | Red | Red | Yellow | Yellow | Green | Green | Yellow | Yellow |
| Transparent, easy to calculate, understandable to users and published | Red | Red | Yellow | Yellow | Green | Green | Yellow | Yellow |
| Reviewed on a regular basis | Red | Yellow | Green | Green | Green | Green | Yellow | Yellow |



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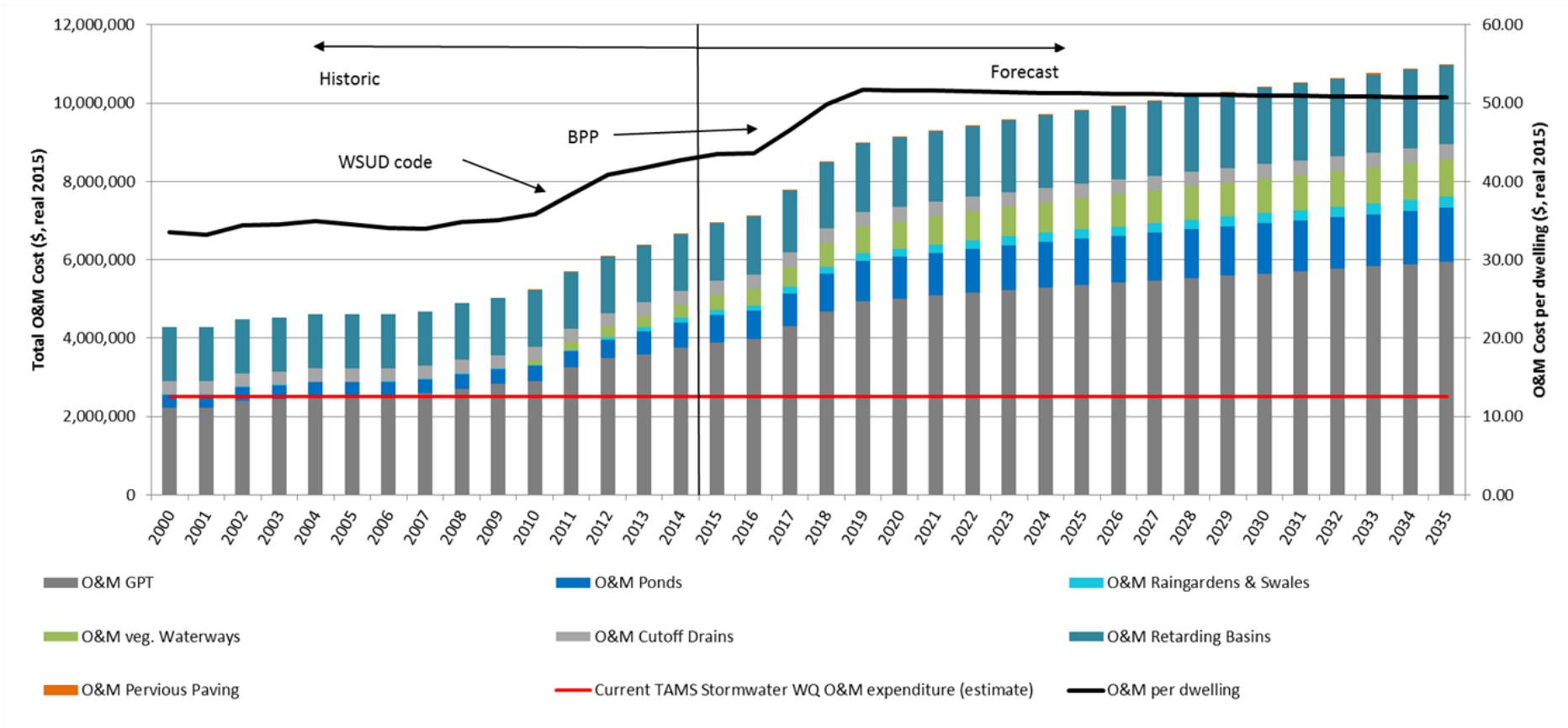
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Marsden Jacob's Preferred Models

| Model Option | Model Description | Asset ownership | O&M | Contract out? | Funding model | Funding source | Funding mechanism |
|--------------|--|-----------------|----------------|---------------|----------------|---|-----------------------------------|
| 3 | Cost-reflective stormwater charge: ACT Government introduces a stormwater charge to fund prudent and efficient expenditure on the O&M of stormwater WQ assets in the ACT. | ACT Government | ACT Government | Partial | Building block | Fixed or variable property-based charge | Property rates or Icon Water bill |
| 5 | Stormwater Utility: Establish a distinct stormwater department within TAMS with responsibility to approve, accept, operate, maintain and renew stormwater assets in the ACT. | ACT Government | ACT Government | Partial | Building block | Fixed or variable property-based charge | Property rates or Icon Water bill |
| 6 | Transfer stormwater assets to Icon Water: Stormwater assets transferred to the existing asset base of Icon Water, thereby permitting Icon Water to impose a stormwater charge. Icon Water responsible for O&M functions. | Icon Water | Icon Water | Partial | Building block | Fixed or variable property-based charge | Property rates or Icon Water bill |

Figure 8: Stormwater WQ assets O&M revenue requirement (p. 22)



Generic Weaknesses

- **Better align roles and responsibilities.** In particular, those with responsibility for the operation and maintenance of assets should have formal and meaningful input into the design of assets
- **Design approval should be based partly on an assessment of the lifecycle cost of the asset.** For the avoidance of doubt, this should explicitly include the costs of operating, maintaining and refurbishing the asset
- **Developing a financial framework that records operation, maintenance and refurbishment costs for stormwater WQ assets.** It has been clear from this project that the current framework is incomplete, meaning that the ACT Government is not in a position to estimate current O&M expenditure. This in turn has made it difficult for us to analyse the efficiency of O&M spending and the adequacy of O&M funding.
- **Allow the Municipal Infrastructure Design Standards to be revised more frequently,** as this would permit innovative and modern stormwater WQ assets to be approved for construction in the ACT.

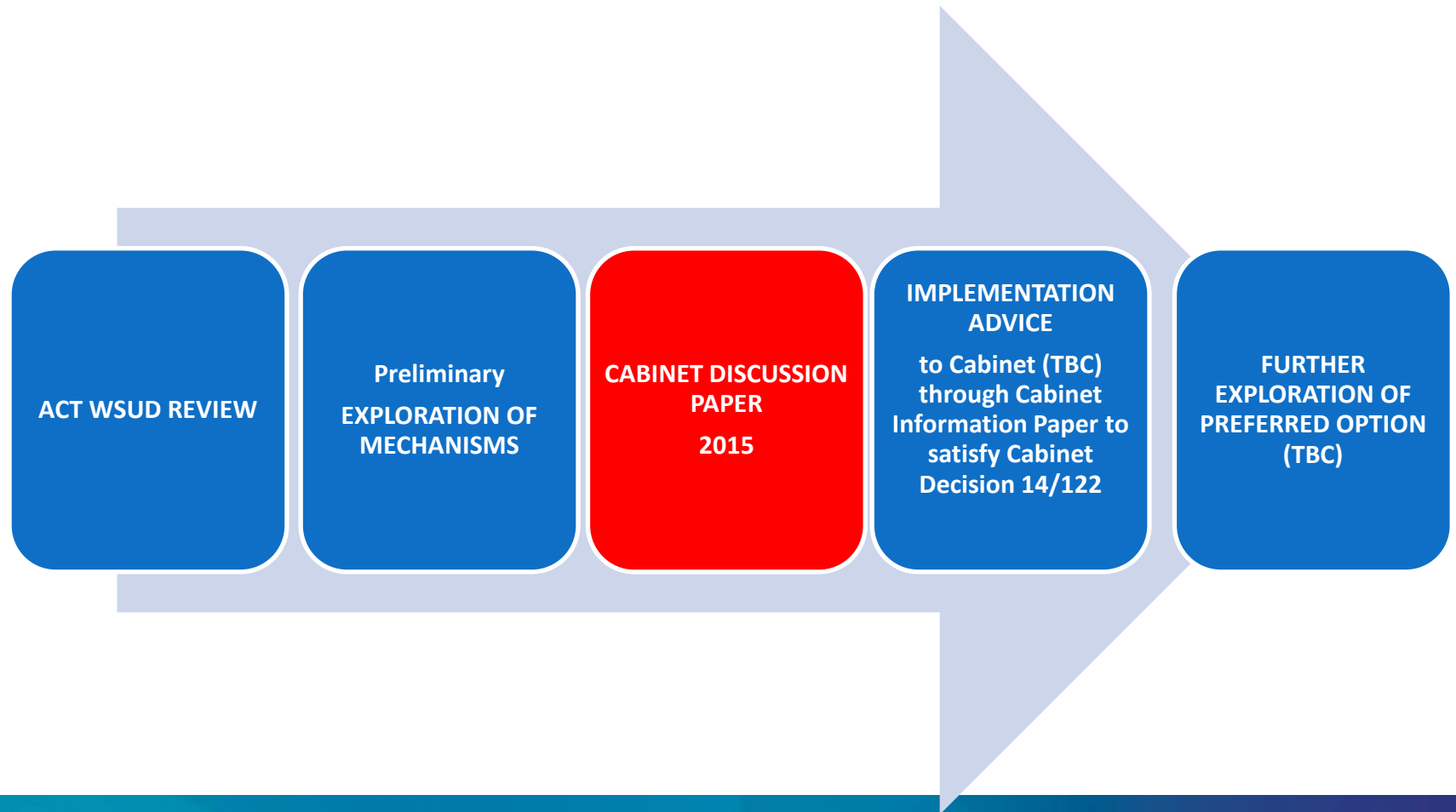


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Where to from here?



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