



## 19 AFFORDABILITY ANALYSIS

### CHAPTER SUMMARY AND CONCLUSIONS:

- The funding gap varies across the Reference Projects. If customers only contributed their nominated willingness to pay towards each of the Reference Projects' capital funding, the total funding gap across the Reference Projects is between \$0.8 and \$1.2 billion in nominal terms, as presented below.

| ESTIMATE        | REFERENCE PROJECT, NOMINAL \$M  |                                  |                                 |  |  |
|-----------------|---------------------------------|----------------------------------|---------------------------------|--|--|
|                 | 1A<br>Standalone<br>58,000 ML/a | 1B<br>Conjunctive<br>58,000 ML/a | 2A<br>Standalone<br>74,000 ML/a | 2B<br>Part. Conjunctive<br>74,000 ML/a | 2C<br>Full. Conjunctive<br>74,000 ML/a |
| Net funding gap | (857.1)                         | (762.5)                          | (1,213.2)                       | (1,105.9)                              | (1,067.4)                              |

- Reference Projects where conjunctive usage was assumed are less unaffordable than the standalone solutions, due to lower capital and operation and maintenance costs incurred for the same level of annual water sales.
- Government funding would be critical to addressing the net funding gap, given:
  - Existing and known customers willingness and capacity-to-pay (for known crop types) limited to \$2,000 and \$3,000/ML for MP and HP customers respectively
  - no additional funding from value uplift sources.
- Funding through subsidised government loan programs does not materially impact the levels of affordability of the Reference Projects, as these would still require principal and interest repayments

### 19.1 Purpose

The affordability of the Reference Projects is an important consideration for the DBC. It builds on the financial and commercial analysis as presented in Chapter 18 and assesses the Reference Projects in terms of its affordability based on, initially, an assessment of the required revenues from customers, and subsequently, the level of subsidisation of capital costs that would be required.

### 19.2 Background

No government funding for the delivery of a Nullinga Dam project has been announced or committed at the time of this DBC. This Chapter does not comment on the appropriateness of government funding, though it identifies the anticipated funding gap. It is noted that the DBC has been informed by:

- a well-established irrigated agriculture sector and associated water market in the Mareeba region
- an assessment of willingness-to-pay for water allocations by the main customer groups for this project, including government and private sector customers
- customers who are familiar with the demand and supply aspects of bulk water infrastructure services in the region.



### 19.3 Funding gap

Using the central case assumptions for the Reference Projects, the following tables summarises the net financial cost to the on a P90 basis, which includes procurement and implementation costs. For affordability analysis purposes, the 30-year (operational) analysis period limitation has been applied.

Table 19-1 Net funding gap for the Reference Projects (Nominal \$M)

| ESTIMATE                 | REFERENCE PROJECT, NOMINAL \$M  |                                  |                                 |  |  |
|--------------------------|---------------------------------|----------------------------------|---------------------------------|--|--|
|                          | 1A<br>Standalone<br>58,000 ML/a | 1B<br>Conjunctive<br>58,000 ML/a | 2A<br>Standalone<br>74,000 ML/a | 2B<br>Part. Conjunctive<br>74,000 ML/a | 2C<br>Full. Conjunctive<br>74,000 ML/a |
| <b>Project Cashflows</b> |                                 |                                  |                                 |  |  |
| Upfront Contribution     | 272.7                           | 272.7                            | 357.1                           | 357.1                                  | 357.1                                  |
| Ongoing Charges          | 189.7                           | 88.9                             | 231.0                           | 111.1                                  | 99.1                                   |
| Capital Expenditure      | (802.6)                         | (746.2)                          | (1,132.1)                       | (1,064.7)                              | (1,041.6)                              |
| Implementation Costs     | (106.1)                         | (90.7)                           | (153.7)                         | (136.9)                                | (128.2)                                |
| O&M Costs                | (207.5)                         | (96.1)                           | (250.2)                         | (119.3)                                | (106.2)                                |
| Unplanned Risks          | (160.7)                         | (148.4)                          | (220.7)                         | (208.6)                                | (203.0)                                |
| Program Risks            | (42.7)                          | (42.6)                           | (44.6)                          | (44.6)                                 | (44.6)                                 |
| <b>Net Project Costs</b> | <b>(857.1)</b>                  | <b>(762.5)</b>                   | <b>(1,213.2)</b>                | <b>(1,105.9)</b>                       | <b>(1,067.4)</b>                       |
| <b>Net funding gap</b>   | <b>(857.1)</b>                  | <b>(762.5)</b>                   | <b>(1,213.2)</b>                | <b>(1,105.9)</b>                       | <b>(1,067.4)</b>                       |

Reference Project 2A has the largest funding requirement of the considered solutions, at approximately \$1,213.2m in nominal terms. Reference Project 1B has the lowest funding shortfall, at approximately \$762.5m in nominal terms.

As previously identified, the ranking of the Reference Projects is driven predominantly by the capital costs for each solution. Over the 30 years of the evaluation period, capital costs are at least five times the size of operation and maintenance costs for each project. The capital cost share of total costs is even greater if costs are expressed in real or present value terms, where the operation and maintenance costs from many years into the future are much more heavily discounted than the capital costs which are incurred in the earlier years.

A discussion on the sources of funds for a Nullinga Dam is provided below, with a focus on the funding of capital costs.

### 19.4 Sources of funding

Capital costs for water infrastructure projects can be funded through one or more of the following means:

- customers
- value uplift
- government.

Each of these are discussed in the following sections to develop the main conclusions in relation to the affordability of the various Reference Projects.



### 19.1.1 Customers

As discussed in Section 18.2.9, any model that seeks full cost recovery pricing from the consider Reference Projects would result in prices

- which are materially higher than current prices
- that are unaffordable for the majority of users.

The prices derived for HP users, which are over 10 times their current bid price, strongly suggest that other cheaper options are likely to be available, and without the support of HP users, the prices for MP users increase substantially. It is considered unlikely that any substantive additional revenue could be raised from the current known customers for the known future crop types then is currently being modelled under the central case scenario.

### 19.1.2 Value uplift

The potential for value capture has been considered in the DBC. The approach used recognises that value capture involves sourcing funding contributions from those who incur a benefit from the NDMIP, outside of the users themselves. Land value capture refers to a method of financing investment in infrastructure where the private sector contributes to the cost of public sector infrastructure and includes a range of financing mechanisms such as changes to rates, land-value taxes, utility or impact fees, and tax increment financing.

In general, value uplift may include:

- increased land values
- environment and safety improvements
- improved access to other infrastructure
- economic development and population growth.

The benefits of the identified options primary relate to increases in employment opportunities and increased payments to capital experienced by the agricultural industry itself, as well as supporting and complementary industries and businesses. Economic development and property value increases would be captured via taxation laws and the real-estate market.

The most realistic option to fund any of the Reference Projects through value uplift is applying a tax, levy or charge over a specified period of time to people, communities or properties that benefit directly or indirectly from the infrastructure. In this case however, land valuation and water allocation are separately priced commodities. It is expected that any value generated by the increased supply of water is captured in the price of water itself. Further, as discussed in the PBC, the introduction of a new tax or charge would be challenging in the Tablelands region. There is the potential for this tax, or charge, to undermine community support for additional water supply if it comes at a personal cost to locals and could generating strong stakeholder opposition. The prevailing view is that government should invest in regional economic development and not increase taxes.

The value uplift conclusions from the PBC are maintained in this DBC. That is, a viable opportunity cannot be seen to capture additional funds from the private sector's indirect beneficiaries beyond customers directly funding any of the considered Reference Projects through capital expenditure and operational expenditure.

### 19.1.3 Government

A sizable funding gap remains for each Reference Project, assuming the combination of:



- capacity-to-pay limited to \$2,000 and \$3,000/ML for MP and HP customers respectively
- no additional funding from value uplift sources.

Government funding to improve affordability is summarised in Table 19-2. This addresses funding sources from the Australian and Queensland Governments. The local governments in the region are not included in this assessment as they are assumed to not have sufficient access to funds to support a large and impactful funding contribution or, in the case of the CRC, are a potential customer and could alternatively have a funding role in this capacity.

In relation to government funding, there are three main types of funding – grant, loan or equity. As outlined in Table 19-2, loan funding (even if subsidised) has limited long-term impact on affordability, as the borrowed funds are to be repaid and the impact on pricing is only likely to be material if the extent of the loan subsidies was of a size where it reduced the WACC used in pricing calculations. Equity contributions will also have no, or minimal, affordability impacts unless the government funding this contribution is willing to accept a sub-commercial return on its investment.

Table 19-2 Sources of Government Funding

| FUNDING SOURCE                        | MECHANISM  | AFFORDABILITY IMPACT   | COMMENT   |
|---------------------------------------|--|--|---|
| <b>Commonwealth Government grants</b> | National Water Infrastructure Development Capital Fund   | Potentially large, as there would be no return on capital requirement and customers would be paying lower bound prices only if the funding met all capital costs | The magnitude of the funding gap as highlighted in Table 19-1 suggest full funding from this source is unlikely, noting that this is a capped funding scheme applying across all of Australia |
| <b>Queensland Government grants</b>   | No specific funding source exists; at least for amounts of the size needed to make a material difference to customer affordability | Potentially large, as there would be no return on capital requirement and customers would be paying lower bound prices only if the funding met all capital costs | It is noted that the Commonwealth Government’s funding commitment to Rookwood Weir in 2017 had a requirement of a matching capital funding State contribution                                 |
| <b>Government equity contribution</b> | As owner of Sunwater, the Queensland Government could provide inject equity into Sunwater  | Nil, because return on investment required   | The only way an affordability impact would occur would be, albeit of a modest amount, through a reduced return was requirement, however, would be contrary to Sunwater’s commercial charter)  |



| FUNDING SOURCE   | MECHANISM   | AFFORDABILITY IMPACT  | COMMENT   |
|--|---|---|---|
| <p><b>Commonwealth Government subsidised loan facility</b></p> | <p>Northern Australia Infrastructure Facility and National Water Infrastructure Development Loan Facility</p> | <p>Marginal impact only as both funds require repayment of loan principal and interest (although subject to a level of subsidy)</p> | <p>Both funds offer concessional loan funding, however these require repayment with interest. These would only impact pricing if the cost of debt subsidy was sufficient to reduce the overall WACC by an amount that made a material impact on capital</p> |