Boardroom Energy

Concessional Finance and its regulatory treatment

Executive Summary

Rising energy costs are a major contributor to inflation at present, and present serious concerns to industrial, commercial and household energy consumers. At the same time, a huge amount of investment is required to transition energy systems to net zero emissions. This investment must inevitably be paid for.

In seeking to square this circle, governments have announced various schemes that seek to make it less costly to finance some of this new investment. This approach is known generically as concessional finance. The large concessional finance scheme is the Commonwealth's Rewiring the Nation, which aims to provide $20bn in concessional finance. Originally presented as a transmission funding vehicle, the first round of projects that will be supported by Rewiring the Nation include generation projects too.

As Rewiring the Nation is a newly committed policy (it was in the Labor election manifesto), there is an urgent need to ensure the regulatory framework appropriately accounts for concessional finance. To do this, the objectives of the policy need to be clear.

This report makes the case that a key objective (not necessarily the sole objective) is to directly reduce the costs to electricity consumers of the new infrastructure required to deliver the energy transition. The regulatory framework for transmission means that consumers pay for all the assets that get built, albeit over many years. The case for this objective is based on three elements:

1. The stated objectives of concessional finance policy, specifically RTN, by the Energy Minister and Prime Minister.
2. The "jam tomorrow" nature of the regulatory bargain on transmission costs from a consumer perspective - consumers pay up front for transmission that is expected to (but not guaranteed to) deliver wholesale cost reductions that exceed the transmission costs.
3. The logic that if concessional finance is intended only to reduce costs to transmission businesses, then there must be a serious flaw in the existing regulatory arrangements, which use careful deliberation and consultation to determine the rate of return permitted by regulated networks.

The extent of the benefits that consumers can get is dependent on the type of concessional finance used. Grants or temporary ownership of assets can allow the full value of the finance to be treated as a capital contribution which will result in greater benefits than if the concessional finance is in the form of a low cost or deferred interest loan. We present the example of the recently announced $750m low interest loan to VNI West. Finance that can be treated as a capital contribution (short or long-term equity or a grant) can have nearly six times the annual benefit to consumers of a low interest loan. The trade-off is that equity contributions hit the bottom line more directly and can take longer to recycle than low-cost loans.

Consumers can benefit significantly more from concessional finance provided in a form that allows for the full amount of the finance to be treated as a capital contribution.

In any case, changes to the electricity rules and /or laws will be required to ensure that the benefits can be passed on (in part or in full) directly to consumers through lower transmission costs. While such changes take time and can be onerous, given the scale of the concessional finance program proposed, it is worthwhile to ensure consumers get the best value possible from the policy and the projects it supports.

Introduction

As the 2022-23 Budget makes clear, rising energy costs are a serious imperative for the nation. They are the primary driver of inflation and a major impediment to economic growth, as they directly impact the budgets of everyday households and businesses. One tool to help reduce energy costs, albeit over a longer timeframe, is Rewiring the Nation (RTN), a $20 billion pot of concessional finance aimed at reducing the costs of large transmission projects – and now understood to also encompass market-facing assets such as pumped hydro and offshore wind.

The purpose of this paper is to outline ways in which Rewiring the Nation and other types of concessional finance can help reduce energy costs to consumers. It is relevant to at least two regulatory and policy processes:

- the Commonwealth's process for designing and negotiating the specific terms of concessional finance via Rewiring the Nation, and;
- the Australian Energy Market Commission (AEMC)'s Transmission Planning and Investment review, which, includes consideration of the necessary rule changes for how to treat concessional finance in the context of transmission projects.

The 2022 Integrated System Plan (ISP) highlights the tremendous increased investment required to transition the bulk power system for one primarily dependent on thermal, fossil fuel-based generators to one that relies primarily on wind and solar power along with storage. According to the ISP, the total increased costs estimated for the build out of the power system are $320 billion. While the ISP outlines a vision for a future energy system, it's only true planning impact is in the context of the high-voltage transmission network. The most recent ISP identifies five "actionable" new transmission projects, which together have a high level estimated cost of at least $14 billion. However recent experience with Project Energy Connect suggests the costs may well be at least 50% higher when completed. This compares to an existing regulatory asset base of $20 billion in the existing transmission network across the National Electricity Market.

At a time of record high energy prices, significant increases in transmission costs can exacerbate cost of living pressures on consumers, particularly due to the lag between the payment of these costs by consumers and the time until they begin to deliver lower cost energy to market.

The Commonwealth government has a policy, based on its election manifesto t, and now committed in the recent budget, to facilitate and expedite the redevelopment of the Eastern Australian electricity system (the NEM) as it transitions from a coal-based system to a renewables-based system. It proposes to do this through Rewiring the Nation (RTN), billed as a $20 billion pot of concessional finance initially aimed at large transmission projects (but now understood to also encompass market-facing assets such as pumped hydro and offshore wind). It is now working through how it will implement this commitment and whether a change to the National Electricity Rules (NER) or the National Electricity Law (NEL) is required.

In a related regulatory process, the AEMC is carrying out a Transmission Planning and Investment Review (TPIR). Its recent stage 3 draft report included a chapter on regulatory arrangements in respect of concessional finance, seeking stakeholder views on a range of questions around how to assess the purpose of the finance and, once its purpose has been clarified, how to treat it in the networks' revenue determination.

These questions are important because of the way transmission projects are approved and regulated. Typically, they must pass a regulatory investment test for transmission (RIT-T) that demonstrates that the expected benefits exceed the estimated costs. The next step is that the transmission network business prepares a more detailed cost estimate for testing through the AEMO ISP feedback loop to assess whether the project is still part of the Optimal Development Path. The transmission network business then submits a contingent project application for that capital cost for review and approval by the Australian Energy Regulator (AER). Once the project is built and commissioned, the transmission network business has the opportunity to apply for a pass through of additional costs that were not anticipated at the time of the contingent project application. If accepted by the AER then the combined cost is added to the network's Regulatory Asset Base (RAB) and it begins recovering the cost from consumers via Transmission Use of System (TUoS) charges. Costs are recovered in two ways: a return of capital (depreciation over the economic life of the asset, which could be 50-60 years for transmission) and a return on capital (debt and equity), which covers financing costs. Notably, the AER's approach to determining the rate of return on capital is based on a benchmark cost of finance rather than the specific costs incurred by each network.

The RTN program is not the only example of concessional finance. The Clean Energy Finance Corporation (CEFC) has made loans to several large transmission and generation/storage projects, although as discussed later it is limited in the degree of concessionality it can apply. State governments have also contributed to early works for major transmission projects such as Project Energy Connect.

Energy Consumers Australia (ECA) and Energy Users' Association of Australia (EUAA) are seeking analysis of the options for concessional finance and how the terms of the finance and the regulatory framework can work together to deliver direct benefits of the concessional finance to consumers.

Scope of this report

The report contains three main sections, as follows:

1. Why a core objective of Rewiring the Nation should be to reduce the cost to consumers of the ISP and other major projects it is used to finance.
2. In the light of 1), what options should be considered for providing the finance.
3. Answers to the questions posed in chapter 4 of the AEMC's TPIR stage 3 draft report.

While the regulatory treatment of concessional finance is only now being reviewed by the AEMC, several examples have already been announced or delivered by governments and government agencies. These are summarised below.

Rewiring the Nation and other concessional finance policies

Concessional finance is being considered primarily, but not entirely, in the context of the Commonwealth Government's Rewiring the Nation (RTN) program. This was an ALP election commitment that was announced as a $20bn investment "to rebuild and modernise the grid, in line with a blueprint already completed by the Australian Energy Market Operator".[1] The blueprint is presumably the Integrated System Plan (ISP).

Since taking government, the Commonwealth has announced the first round of projects to be supported under the banner of RTN. These include transmission projects in Victoria and linking Victoria with Tasmania as well as support for generation projects in the two states.

Tasmania and the Commonwealth have signed a letter of intent[2] that includes:

- Access to a concessional loan from Rewiring the Nation, through the Clean Energy Finance Corporation for approximately 80 per cent of the project costs of Marinus Link, with the additional 20 per cent to be an equity investment shared equally between the Commonwealth, Victoria and Tasmania to get this critical project off the ground.
- Up to $1 billion of low-cost debt from Rewiring the Nation for Tasmania's Battery of the Nation projects, including Tarraleah Power Station redevelopment and Lake Cethana Pumped Hydro.
- Low-cost debt to link Cressy, Burnie, Sheffield, Staverton and Hampshire in Tasmania, known as the North West Transmission Developments (NWTD), which will increase the capacity of the network in Tasmania.

[1] https://web.archive.org/web/20220308015337/https://alp.org.au/policies/rewiring_the_nation

[2] https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-rewiring-nation-plugs-marinus-link-and-tasmanian-jobs

The agreement between Victoria and the Commonwealth sets out[3]:

- $1.5 billion of concessional financing from Rewiring the Nation available for REZ projects in Victoria, including offshore wind projects.
- A commitment to coordinate Victorian and Commonwealth regulatory processes to support the rapid development of the Victorian offshore wind industry.
- Rewiring the Nation, through the Clean Energy Finance Corporation, will provide a concessional loan of $750 million for VNI West to ensure it is completed by 2028.

Clean Energy Finance Corporation (CEFC)

It appears likely from this information that the CEFC is intended to be the primary vehicle for the loan components of these commitments. As discussed further on page 9, there may need to be a change to the CEFC's mandate to allow it to issue concessional finance at this scale.

In addition to the rewiring the Nation loans, The CEFC has already made several loans to energy projects.

Table 1: CEFC-supported projects

Project	type	value $m	status	Consumer benefit
Snowy 2.0 connection	Transmission	150	committed	No direct benefit
Project Energy Connect	Transmission	295	committed	No direct benefit
Vic Big battery	storage	160	committed	No direct benefit
SA VPP	storage	30	committed	No direct benefit
Vic REZ	Transmission	150	announced	Unclear at this stage
		785		

Source: CEFC annual report 2020/21, CEFC website

To date it does not appear that any of these have directly resulted in lower costs to consumers. Consumers are expected to benefit indirectly as each of these enables more wholesale competition, which should put downward pressure on wholesale prices.

Early works underwriting

State and commonwealth governments have provided funds for early works on transmission projects such as Project Energy Connect in order that these preparatory activities can proceed before the full project cost has been approved by the AER Details are scant, but the funding has been described as underwriting, on the basis that it is a loan that is repaid if and when the project gets AER funding approval to proceed. This appears to be concessional finance, given that: there is no mention of interest; and in the event the project does not get full funding approval, the loan is presumably written off. There is no direct benefit to consumers, but to the extent these early works funding allows projects to proceed quicker than otherwise, it will bring forward the benefits of the project.

Other governments or other commonwealth programs may emerge that use concessional finance

[3] https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-rewiring-nation-supercharge-victorian-renewables

Objectives of concessional finance

What is the purpose of concessional finance and what should it be? This question will be examined through three lenses:

4. The stated objectives of concessional finance policy, specifically RTN, by the Energy Minister and Prime Minister.
5. The "jam tomorrow" nature of the regulatory bargain on transmission costs from a consumer perspective - consumers pay up front for transmission that is expected to (but not guaranteed to) deliver wholesale cost reductions that exceed the transmission costs.
6. The logic that if concessional finance is intended only to reduce costs to transmission businesses, then there must be a serious flaw in the existing regulatory arrangements, which use careful deliberation and consultation to determine the rate of return permitted by regulated networks. .

Stated objectives

As is often the case, government policy objectives for concessional finance are multiple and potentially ambiguous. The original ALP manifesto statement for Rewiring the Nation mentioned job creation, industry development (both traditional ones like steel and aluminium and new ones like hydrogen and battery production), and "driving least cost, reliable new energy production". It stated that the "end result will be cheaper electricity prices".

On the face of it, this could mean that the primary way that electricity consumers will gain from RTN will be because the expansion of the transmission network in line with the ISP will result in lower wholesale costs as it allows more new generation to connect and compete in the wholesale market.

If this is the sole purpose of the concessional finance - to ensure the timely construction of new transmission - then it doesn't necessarily follow that consumers would directly benefit from the low cost finance through lower transmission prices. The modelling by Reputex that accompanied the announcement of the policy proposal indicated prices would be lower at both wholesale and retail levels, but not enough detail was published to ascertain the modelling assumptions on transmission prices.

However, there are clear indicators that the intent of the policy is also to directly reduce the cost to consumers of new transmission investment. A quote attributable to Chris Bowen asserted that RTN "*…ensures Australia's modern energy grid will be built by Australian workers using Australian steel at the lowest possible cost.*"

The announcement of the Project Marinus support was also accompanied by a quote from (now Minister) Bowen: "This low-cost financing from Rewiring the Nation will reduce the annual costs of Project Marinus to electricity customers by up to half.[4]".

Additionally, a quote attributable to (now Prime Minister) Anthony Albanese at the time of the release of the policy indicates that the intent was for consumers rather than transmission businesses to benefit financially from concessional finance: "*transmission systems themselves are operated by monopoly providers who keep taking households and businesses for a ride*".

Aside from these indications from the architects of the RTN policy, there are many good reasons why consumers and consumer representatives are not inclined to rely purely on the promise of future lower wholesale prices due to increased transmission links.

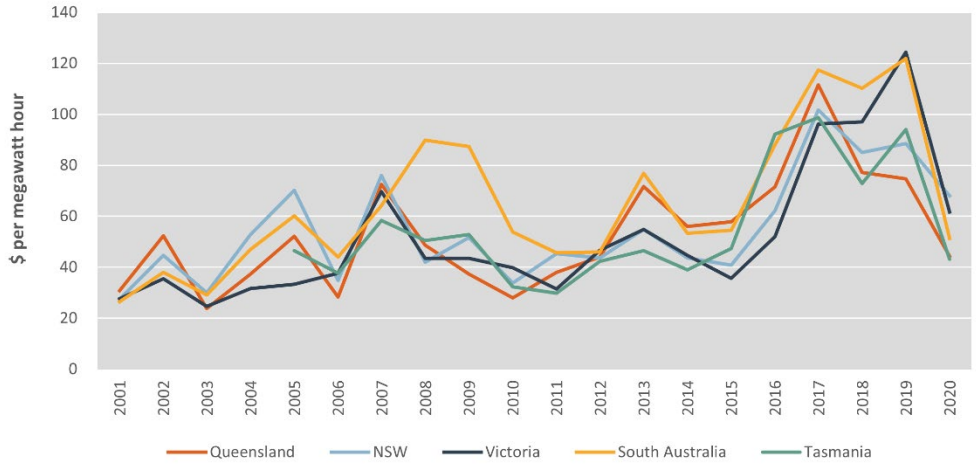
Transmission – definite up-front costs versus modelled benefits over time

The premise of the ISP that in general more transmission should allow for increased renewable generation and more competition between generators, resulting in lower wholesale prices than the counterfactual where transmission is not built out, is reasonable. However, there is a good deal of devil in the detail of this premise.

[4] https://minister.dcceew.gov.au/bowen/media-releases/joint-media-release-rewiring-nation-plugs-marinus-link-and-tasmanian-jobs

More generation arising from more transmission is not a guarantee of absolute lower prices in the future. There is also the matter of lower prices than what benchmark. Recent wholesale prices have been at record highs, due to a confluence of factors such as record gas prices and coal supply limitations. There are few if any scenarios where this would be considered the benchmark for future average prices. Annual or even quarterly average prices in excess of $100/MWh would have been unthinkable before 2017 when the Hazelwood brown coal plant in Victoria closed at short notice, as shown by the chart below from the AER.

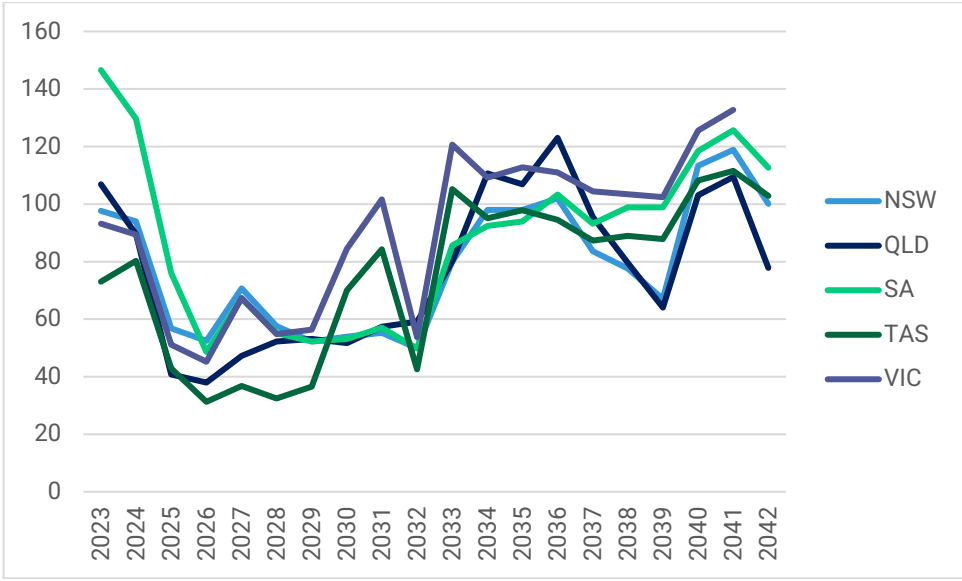
Figure 1: Historical annual average prices ($/MWh)



Source: AER

While AEMO does not forecast prices arising from the implementation of the ISP, other parties do. Endgame Economics' price projections are that after a fall in the middle of this decade, prices will rise again and average in the region of $80-$100/MWh (real 2022 prices) for the remainder of the projection period.

Figure 2: Projected annual average wholesale prices ($/MWh)



Source: Endgame Economics, September 2022 Subscriber data pack

Endgame's projections of near term price reductions are based on a number of input assumptions that are uncertain, including the expectation that gas prices will return to more normal levels in a couple of years and that the new transmission and generation anticipated by the ISP will be able to be built in the assumed timeframes

AEMO's analysis that the ISP represents the optimal development path (i.e. the lowest system cost to meet reliability standards and emissions reduction requirements) is in part predicated on its cost assumptions for the new transmission.

However, AEMO's cost assumptions are very high level. From an engineering perspective they are classified as AACE Class 4 meaning they can vary from -30% to +50%. Current experience in ISP projects suggests a trend of costs increasing

rather than decreasing from initial estimates e.g. Project Energy Connect costs have come in at around double their initial estimate.

While AEMO has since revised its cost estimates upwards, there continues to be upward pressure on costs. It has become clear that social licence issues will loom larger than previously assumed, as exemplified by opposition in Victoria to the western renewables link project. In NSW, the government has recently announced that private landowners will be paid $200,000/km (in real 2022 dollars) paid in annual instalments over 20 years under its new strategic benefit scheme, in addition to existing payments for easements. These increased payments for landowners will directly increase costs of transmission paid by consumers.

There are also concerns about the robustness of the customer benefits case for individual transmission projects. The Regulatory Investment Test for transmission (RIT-T) is focussed on market benefits, which is calculated on a cost basis compared to the counterfactual that the transmission project isn't built. The benefits are modelled and are not guaranteed to occur, let alone flow through to wholesale prices to actually offset the cost of the transmission. There is considerable pressure to remove the RIT-T process on the basis that it delays the required build. This is of great concern to consumers who then will have no confidence that individual projects have net benefits and have to rely on the overall system benefits shown in the ISP .

The costs consumers pay are also incurred up front, whereas the benefits only flow once the project is complete (with some counterintuitive exceptions as discussed further below). This timing mismatch is somewhat mitigated for consumers by the fact that these are long-lived assets, and their cost is recovered over several decades.

In the case of VNI West, for example, the modelled benefits begin to accrue several years before the transmission is built. The rationale for this view is that higher cost lower utilisation projects in other locations will be deferred because their proponents know lower cost, higher utilisation renewable projects will be connected to VNI West once it is built. So the early benefits are due to the avoided or delayed costs of these other generation projects not being incurred. The logical conclusion is that under the VNI West case, prices will be *higher* (because there is less new generation competing in the market) than under the counterfactual. Unsurprisingly, several stakeholders have raised concerns with the modelling.

The regulated rate of return process

Further, if the primary reason for concessional finance was to lower the cost of capital for transmission projects, then concessional finance would undermine the AER's Rate of Return Instrument (RORI). The RORI is a binding decision that sets the allowed return (equal to the required cost of capital) for all energy networks regulated by the AER, and is reviewed every four years. The extant RORI was set in 2018 and the new decision is due in December this year. The decision will be the culmination of two years of extensive consultation with stakeholders, that has included input from a conclave of experts and review by an Independent Panel.[5] The AER sets the same instrument for all electricity distribution and transmission businesses, as required by law. while it can set a different rate of return for regulated gas networks, it has chosen not to do so in its reviews to date. This indicates that the AER is satisfied that the required cost of capital is effectively the same across all the networks it regulates.

Since the regulatory regime is set up to allow network businesses to recover the cost of new investments and to earn an allowed return equal to their cost of capital, it is unclear what the rationale would be for governments to provide them with finance at a rate below commercial cost of capital and allow the businesses to retain all the benefits. In doing so they would be making a judgment that the AER has set an inadequate rate of return. If this was the case, it would be an issue for all network investments, not just select transmission projects.

It should be recognised that network businesses have been arguing that the RORI is inadequate. However, this is a perennial complaint that has yet to be backed up

5 *The author is a member of the AER's consumer reference group (CRG), which has been set up to advise the AER on the 2022 RORI. Any views expressed in this report are the author's own and cannot be taken as representative of the CRG.*

by robust evidence. Equally, many consumer representatives have argued that the RORI has been excessive.

There is a caveat to the point that network businesses already receive a sufficient rate of return to finance new capital expenditure. While, in finance theory, the required cost of capital should not be dependent on the *level* of capital investment, it does seem that a business with very high levels of capital investment relative to its underlying financial position may face more difficulty in obtaining finance than one with low levels of investment. This is because of the influence of the major ratings agencies in determining the cost of finance through their credit rating system. In general, a lower rated business will have to pay higher rates of interest on its debt. If a business is rated lower than the AER assumes a generic network business would be rated when it sets its rate of return, then its actual finance costs may be higher than the AER's estimate. Among the tools ratings agencies use to determine credit ratings are financial ratios such as interest cover and income-to-debt ratios. These can deteriorate when businesses have to finance high levels of new investment relative to their existing asset base.

Thus it is *possible*, though not a given, that a business could receive what would normally be an adequate rate of return but still face difficulty financing new investment. This is generically referred to as a financeability issue.

In this scenario, concessional finance could assist. Instruments that reduce the amount of external financing a business needs, such as grants or equity, can mitigate financeability issues. Low cost or deferred interest on loan finance also can do this by improving financial ratios, but this may be dependent on the business retaining at least some of the benefit of the concessional finance.

There are other regulatory tools to address financeability, which have been canvassed by the AER. Chief among these is adjustments to the depreciation schedule, which can accelerate cash flows. In principle this means consumers pay the same amount (on a present value basis) over time, but more up front, in return for lower charges later. The AEMC has just proposed that the rules be changed to give the AER more flexibility in adjusting depreciation profiles in order to improve financeability. Whether concessional finance has been obtained and how the benefits have been shared will be an important consideration for the AER in considering whether it is in consumers' interest to reprofile depreciation.

Accordingly, the remainder of this report proceeds on the basis that a key objective of RTN, and other concessional finance should be to reduce the cost to customers of new investment. This does not preclude there being other objectives.

The above discussion is focussed on regulated assets. Some of the proposed projects to be supported by RTN, such as Victoria offshore wind and Tasmanian pumped hydro, will be wholesale market participants. It's less clear what mechanism if any could deliver direct cost savings to consumers, rather than indirect savings through lower wholesale prices due to the extra generation/storage in the market. To the extent such projects are also supported by Power Purchase Agreements (PPAs), Contracts for Difference (CFDs) or other instruments whose costs are passed on to consumers, then concessional finance could deliver a lower strike price.

Options for providing concessional finance

There are several options open to governments for providing concessional finance. Some can utilise existing vehicles, (such as the Clean Energy Finance Corporation) while others would require the creation of new financing vehicles or legislative amendments to allow existing vehicles to issue certain types of financial instruments.

- Grants
- Equity injections
- Own and transfer (effectively temporary equity)
- Low cost loans
- Deferred interest loans

The implications of each of these types of concessional finance is discussed further below. Note that the range of options is broader than those recognised by the AEMC in their TPIR stage 3 draft report, which focusses on loan financing only.

Grants

Grants are the most generous types of concessional finance. They have been used to accelerate deployment of large-scale solar, for example, via ARENA's solar

round. In the case of regulated transmission assets, a grant could serve two purposes - to reduce the cost to consumers and to address any financeability concerns.

However, grants may be less attractive to governments as they will directly hit the government's bottom line. As there is no future income stream or repayment, the capital cannot be recycled into further future concessional finance, as it is never recovered.

Equity injections

Equity stakes would only be considered concessional financial instruments to the extent that the governments making the injections are clear that they are not seeking a commercial equity return. Part of the RTN has been allocated to an equity holding in Marinus Link, but it is not clear in what way this is concessional.

As discussed in the next section, changes to the way the AER determines the allowed rate of return on investment would be required to make regulated transmission equity "concessional" in nature.

In the case of market-facing, unregulated assets, it's unclear how concessional equity would assist consumers receiving lower prices, except to the extent it accelerated investment.

Own and transfer (temporary equity)

Governments could achieve the same outcomes as grants - for a period - while avoiding the full balance sheet impact of a grant, by taking temporary ownership or part-ownership of a new asset while not seeking a return. In the case of a regulated transmission asset, when the temporary ownership period was up, it could be returned to the TNSP, who would then add the cost of the asset to its RAB and begin to earn a return on it. To be of meaningful value to consumers, the temporary ownership period would need to be several years at least from the date of commissioning the asset.

Factors that would affect how long the temporary ownership should be include:

- The trajectory of energy prices. Ideally, at the point at which the asset was added back into the RAB, prices would be on a downward trend rather than an upward trend.
- The manifestation of the benefits expected from the asset, for example new generation being added because of the extra capacity created, high utilisation of the asset, and downward wholesale price pressure in the relevant region(s) of the NEM.
- The extent to which government needs to recover and recycle the funds

While there is not a single optimum ownership period, the minimum should be at least five years to ensure material benefits to consumers based on the example we provide below using VNI West.

In the case of a market-facing asset, this approach could be useful where an asset is being built earlier than might otherwise be commercially viable in order to ensure new capacity is in place before coal plant closure, for example.

Co-ownership of an asset could raise complications with commercial partners who may have reservations about co-owning with a government shareholder whose focus is on outcomes other than realising the value of the asset. Conversely, if government is the sole owner, then it needs to consider how it will build, operate, and maintain the asset for the period of ownership. Accordingly this option, is most prospective in cases where the part-owner/future owner is a government-owned corporation (GOC) in any case.

Low cost loan

Concessional finance can take the form of debt as well as equity. In this case the concessional element could be in the form of a lower interest rate than an equivalent commercial loan. As noted in the previous section, a low cost loan can improve financeability metrics for a business. It can also make it easier to attract finance from other lenders.

On the face of it, the CEFC is an obvious vehicle for the commonwealth to use in issuing concessional finance under the RTN. But there are legislative constraints on the way in which the CEFC can operate. It has to earn a benchmark return, avoid excessive risk at the aggregate portfolio level, and consider its impact on financial

and energy markets generally. All of these act to limit the generosity of concessional finance it issues. More specifically, its investment policies state:

"Offers of concessional finance will generally be limited to avoid unintended market impacts, distortions in the efficient operation of the capital markets, or other government policies and programs.[6]"

The amount of concessionality provided in any one financial year is limited to $300 million by the CEFC's mandate.[7] This is the value of the concession (i.e. the difference between the present value of the instrument issued by the CEFC and the present value of an equivalent instrument at commercial rates). This has the potential to be a limiting factor on use of the CEFC for providing the full $20bn RTN amount, but it and other constraints can be addressed by updating the CEFC mandate.

Lower cost loans may be an attractive option for governments as their balance sheet impact is limited, and funds repaid can be recycled into new loan if required. However, the default impact on regulated charges of transmission companies is zero, given the AER's approach of setting a benchmark rate of return rather than one predicated on the actual finance costs each network business incurs.

Even if steps are taken to share some or all of the benefit of the low cost loan with consumers, the impact on transmission charges will be relatively small and much lower than the impact of a grant for example.

Deferred loan

Instead of – or in addition to -- paying a lower interest rate, a concessional loan can be structured to defer the interest payments. This can assist with financeability profiles. It's understood that the CEFC loan to TransGrid to assist in financing its portion of Project Energy connect was a deferred interest loan. Evidently, this approach was within the envelope of the CEFC's current mandate. Consumers received no direct benefit from this loan, as it had no effect on TransGrid's allowed rate of return.

The implications of each of these options for the various parties: the government issuing the finance, the recipient business and consumers, is set out in the table on the next page. The impact on customers is dependent on whether the regulatory framework is updated to accommodate concessional finance or not.

[6] https://www.cefc.com.au/media/1sbjb5qb/cefc-investment-policies-april-2021.pdf

[7] https://www.legislation.gov.au/Details/F2020L00552

Table 2: Summary of implications of different types of concessional finance

Type	Impact on government finances	Capital recycling?	Impact on TNSP	Impact on customers (no change to NER/NEL)	Impact on customers with change to NER/NEL
Grants	Expenditure - direct hit to bottom line	No	Reduce financing requirement	Reduce (TUoS) charges	Reduce charges
Equity injections	Balance sheet item - may eventually need to be written down depending on future returns	Yes	Reduce financing requirement	None	Reduce charges
Own and transfer	Temporary balance sheet item	Yes	Reduce financing requirement, but may have to share ownership with government	Reduce charges	Reduce/defer charges
Low cost loans	Balance sheet item - may eventually need to be written down depending on future returns	Yes	Cheaper finance	None	Moderately reduce charges
Deferred interest loans	Balance sheet item - may eventually need to be written down depending on future returns	Yes	Deferred cashflow	None	Moderately deferred charges

Source: Boardroom Energy analysis

Quantitative comparison

Comparing the potential outcomes for consumers is challenging given the different variables at play. A highly indicative worked example is set out below, to show the magnitude of benefit between a capital contribution and low cost loan.

Table 3: Indicative savings

Reference	Item	Value
A	new asset value ($m)	3300
B	asset life (years)	50
C = (A/B)	annual depreciation ($m)	66
Indicative rate of return		
D	RoD	4%
E	RoE	6%
F	gearing	60%
G = D*F + E*(1-F)	allowed return	4.8%
H = G*A	initial year return ($m)	
J	Component that is concessional finance	750
Scenario 1: concessional finance as capital contribution		
K = J/B	Depreciation saved	15
L =J * G	return on capital saved	36
M =K + L	Annual savings if asset covered by grant	51
Scenario 2: concessional finance as debt finance is at 200bp below market		
N = D – 2%	concessional interest rate	2%
P = N *F + (1-F)	cost of capital	3.6%
Q =L – (J * P)	**Annual savings**	**9**

The value of the asset and the concessional finance in this example are based on VNI West.

If the finance is provided as a capital contribution, then consumers will save $51m in the first year, with savings decreasing by 2%/year thereafter as the asset is depreciated. This is around a quarter of the overall annual cost of the asset. If it is provided as a loan at a concessional rate of 200bp (2%) below market value, then consumers will save only $9m in the first year. The actual savings in both case will depend on the AER's rate of return decision. This is based on the PADR capex of $3.3b which is an AACE Class 4. A 50% increase in that capex would render the consumer impact of the low interest loan almost negligible when compared to the original cost estimate.

It's evident from these figures that consumers can benefit significantly more from concessional finance provided in a form that allows for the full amount of the finance to be treated as a capital contribution.

Regulatory treatment of Concessional finance

For ease of reference this section is structured as a set of responses to the questions raised by the AEMC in chapter four of the TPIR stage 3 draft report.

QUESTION 7: NOTIFYING THE AER

Who should notify the AER about the existence of a concessional finance arrangement?

Ideally, the allocation of concessional finance should be sufficiently transparent as to render this question redundant. In practice, it's important for clarity that any new rules relating to concessional finance allocate this responsibility to a specific party or parties. The rule should be drafted so as to eliminate any dependence on the regulated network deciding what constitutes concessional finance and thus whether the AER needs to be notified.

QUESTION 8: INFORMATION REQUIREMENTS

What types of information about the concessional finance arrangement should be provided to the AER and by whom?

Concessional finance represents public money and so transparency is important. The starting point should be that full details of the terms of the finance should be made available to the AER and ideally to interested stakeholders. Recognising that there may be some circumstances where elements of the terms of the finance are commercially confidential from the perspective of the borrower, there should be scope for them to apply to the AER to have specific details redacted from published documentation.

QUESTION 9: FINANCIER'S INTENT

How should the AER determine the financier's intent?

as discussed above, an objective of concessional finance should be to directly reduce the cost impact to consumers of the assets being financed. In this light, the default assumption should be that 100 per cent of the benefit is to be passed on to consumers. Accordingly, if a provider of concessional finance specifically intends the owners of the asset being financed to receive some of the benefit of the concession, then they should specify so, for example on the finance documentation. The most straightforward way to do this would be to express shared benefits in percentage terms. The way in which the AER could use this information in the revenue determination process is set out in the response to question 10 below.

QUESTION 10: REGULATORY TREATMENT OF CONCESSIONAL FINANCE

How should the AER determine the amount of the concessional finance to be treated as a benefit to consumers and/or TNSPs? How should this amount be treated in the revenue determination process?

As well as the specific questions above, the AEMC has commented: "The Commission welcomes stakeholder views on how the value of the benefit to the TNSP and/or consumer should be determined and treated by the AER in the revenue determination process and whether the NER should specify the mechanism or provide discretion to the AER to determine the mechanism?"

The appropriate regulatory treatment of concessional finance depends on factors such as the type of concession and the provider's intent. In some cases, changes to the relevant laws or rules may be required. This should not be a barrier to obtaining the treatment that is in consumers' interests. The options set out by the AEMC include:

- a reduction in the capital expenditure amount,
- a reduced rate of return in the economic analysis of different solutions, or
- through other means.

Each of these options is considered in further detail below.

A reduction in the capital expenditure

There is a well-established mechanism for recognising capital contributions in the network regulatory framework. Part J of Chapter 6A of the NER specifies how user contributions to new capital expenditure are to be treated for regulatory purposes. Briefly, the standard approach is to recognise that these amounts do not require financing by the network business and to deduct them from the value of the asset added to the regulated asset base (RAB). However, this part of the NER does not specify how capital contributions from *non-users* such as governments are to be treated for regulatory purposes. A similar issue has arisen in respect of the national gas rules and a rule change has been proposed that clarifies that the AER may treat contributions by non-users and concessional finance as a capital contribution.

This approach would work well in the case of a grant and of concessional equity. In the latter case if the equity provider still sought a return, albeit a sub-commercial one, then the amount deducted from the RAB could be a proportion of the equity injection. The AER would need to be guided in determining the proportion by a statement from the funder on how it wished the benefits to be shared.

In any case providing there was some deduction from the RAB, consumers would benefit through lower prices. Even if the equity amount was deducted in full, TNSPs would still benefit from the concessional finance through having a lower amount to finance.

It's unclear how this option would work in the case of a concessional loan. In this case, the TNSP still has to finance the full value of the asset, it is just able to do so

at a lower rate (or with some deferred cashflows). So reducing the value of the asset added to the RAB (which determines the allowed rate of return) may not align well with this approach. In principle, if it could be determined that the concessional finance made the cost of financing an asset 10 per cent cheaper, then 10% of the asset value could be treated as a capital contribution and only 90% of the asset value added to the RAB. While this would more or less equalise the rate of return, the network business would not be able to recover the full capital value through depreciation. So a further adjustment would be required to account for depreciation. Additionally, as the RORI is typically expressed as formula that is dependent on future values of financial market indicators, rather than a single fixed rate of return, it may not be possible to determine the appropriate percentage.

An alternative approach that utilises the capital contribution mechanism is possible but would entail the financing entity recovering its return a different way. Under this alternative, the AER would deduct the value of loan from the amount added to RAB (similar to a capital contribution). The Government financing entity can recover finance charges via a "tax" on networks (at either the transmission or distribution level). This method would require appropriate enabling legislation, but the approach is similar to existing schemes used by state and territory governments to recover policy costs from electricity consumers. The debt would not be carried on the TNSPs' balance sheets, thus aiding financeability.

This alternative would enable a different approach to spreading the cost of interconnectors in particular, given governments and other stakeholders have expressed concern about the incidence of such costs under the current rules.

A reduced rate of return

Adjusting the allowed rate of return as it applies to that asset may be a more appropriate way to reflect the value of a concessional loan.

The AER could set up a separate RAB for the value of concessional finance loan and allow the actual debt cost. This should be capped at allowed cost of debt, given that this approach creates no incentive for TNSP to negotiate down the interest rate. If the financing entity explicitly intends TNSP to retain some of the benefit it could specify a percentage and the AER could allow that percentage as a margin on the cost of debt, calculated by reference to the difference between the concessional rate and the allowed return on debt. As explained above, calculating an exact percentage may be difficult depending on how the RORI specifies the allowed rate of return is set. However, getting an exact percentage is less critical in this case, as the network business is getting at least its actual debt costs at a minimum.

This option would require a change in the National Electricity Law to allow the AER to depart from application of the binding RORI.

Other means - Under recovery of allowed revenue

A potential option is under recovery of allowed revenue to reflect the sharing of benefits with consumers. Under current arrangements, the AER cannot enforce under recovery, so it would need to be specified by the financing entity in the contract and they would need to enforce the terms of the contract with the network business if necessary.

Much like the RoRI, the calculation of annual maximum allowed revenue (against which any under recovery would be measured) can be complex, as it takes into account multiple inputs such as allowed pass-through costs and unders/overs from prior years. So, it may not be straightforward to confirm the level of under recovery.

Because the under recovery would be determined in contract negotiations between the financing entity and the network business, consumers and other stakeholders would have no opportunity to make their views known, unlike the other options, where the AER would consult on its approach.

The one limited benefit of this approach is that it would not require legislative or Rules changes.

Conclusion

While RTN appears to have multiple objectives, based on the information released to date, it is clear that one of them is to directly reduce the cost to consumers of new transmission infrastructure. However, RTN is also now intended to be used for financing unregulated assets. It's hard to infer anything other than that the benefit to consumers is intended to be through lower wholesale costs arising from increased competition as these assets enter the market.

So the focus is on how to ensure RTN achieves its objective to directly reduce the cost to consumers of new transmission infrastructure. Multiple options exist, from grants to equity to concessional loans, which broadly entail a trade-off between how much consumers can benefit from lower prices and the overall impact on government finances.

In turn there are multiple options for the regulatory treatment of concessional finance. These align to the type of finance, with capital contributions suiting cases where the finance is provided as a grant or equity, and a reduced rate of return suiting cases where it is provided as a concessional loan. Given that multiple approaches may be required, the AER will need suitable levels of discretion allowed to it to ensure the regulatory treatment is fit for purpose in each case.

These options will require a rule change and a legislative change respectively. However, with RTN alone valued at $20bn and the potential for other instances of concessional finance from state governments, the amounts under consideration are more than sufficiently material to justify the effort of such changes.