

Victorian Transmission System Stakeholder Engagement Group

2023-27 access arrangement.

**Roundtable 4 – Calculating regulated revenues and tariff
structures**

presented by: Scott Young, Nives Matosin



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Acknowledgement of Traditional Owners



We would like to begin by acknowledging the Traditional Owners as the custodians of country throughout Australia and their continuing connection to land, waters and community.

We pay our respect to Traditional Owners, their cultures, and to their elders past and present. And we warmly, extend that respect to all Aboriginal and Torres Strait Islander peoples attending today.

Discussion points



- | | |
|---|--|
| 1 | Welcome, house rules, purpose of today |
| 2 | What we heard in Roundtable 3 and our response |
| 3 | Engagement activities – key dates and IAP2 spectrum |
| 4 | Building block – approach to calculating total regulatory revenue |
| 5 | VTS tariffs |
| 6 | Wrap up |

Introductions and house rules



- We ask that discussions during the roundtable are respectful.
- This is intended be an open discussion between the engagement group and APA.
- We welcome you to raise any issues or questions about the access arrangement.
- We will keep notes of discussions.
- We are not intending to attribute any comments or questions to you or your organisation, unless requested.

Purpose of today's roundtable

Purpose of Roundtable 4 is to:

- Recap on issues raised in Roundtable 3
- Discuss the approach to calculate regulatory revenues
 - Introducing the building block approach
- Provide an overview of how the VTS tariffs are set
 - Provide opportunity to get your views on the current tariff structure
- Discuss updated engagement activities and dates.
- **R4 sits within Inform & Consult on the IAP2 spectrum.**

What we heard at Roundtable 3 and our response



Topic	Issues raised by stakeholders	Comment/ response
Dates for access	In Victoria, the regulatory dates for electricity have shifted from calendar to financial years. Is there a proposal to do the same for regulated gas businesses?	We have confirmed with the Victorian Government that there is no intention to move the transmission access arrangement dates from calendar to financial years.
Capex asset management	Hydrogen. As part of asset management, has APA been taking into consideration the potential impact of hydrogen on its pipelines	Following R3, in late February, APA has announced a hydrogen pilot project to enable the proposed conversion of 43-kilometres of the Parmelia Gas Pipeline in Western Australia. APA is targeting the testing and research to be completed around late CY2022. Further information https://www.apa.com.au/news/media-statements/2021/apa-set-to-unlock-australias-first-hydrogen-ready-transmission-pipeline/
	Net Zero. To what extent does APA's asset management approach take into consideration net zero emissions policies? Will APA seek to accelerate depreciation of assets?	In February, APA announced its ambition to achieve net zero operations emissions by 2050. This sends a clear message about APA's commitment to playing its part towards decarbonisation. See https://www.apa.com.au/news/media-statements/2021/apa-group-continues-progress-to-a-sustainable-future-with-ambition-for-net-zero-by-2050/ On the issue of accelerated depreciation we note that to date the AER has only allowed accelerated depreciation in limited circumstances.
	Asset management. To what extent does APA's asset management (maintenance) approach operate based on 'run to failure' or condition assessment approach?	Run-to-failure is not appropriate for transmission. We comply with range of regulatory requirements. APA's approach involves top-down strategic input and bottom-up business planning. We describe it as a pragmatic risk and opportunity based approach to maximise whole-of-life asset value.

What we heard at Roundtable 3



Topic	Issues raised by stakeholders	Comment/ response
FSRUs	The business case for FSRUs is that they are 'flexible' and can move between locations. What happens if APA builds assets to accommodate an FSRU and then after, say, five years the FSRU leaves? Can the 'developer'/ FSRU be charged for the assets?	Under the market carriage model we do not charge for connection / expansion of assets to individual users. This is because there is no firm access - therefore no incentive for users to pay a 'capital contribution'.
AGL Crib Point/ VIVA Geelong	What is the deadline for decision on these projects?	There are lots of moving parts - including the planning process, and the Port Kembla FSRU project. There are many parts that are subject to decisions outside of APA.
Western Outer Ring Main (WORM)	<ul style="list-style-type: none"> • What is the deadline for the decision on the WORM? • If under a rule 79 test for 'conforming expenditure', if the AER doesn't approve the expenditure could APA charge a contribution for building the asset? • What is the timing if you need to get a pre-approval for a potentially bigger 'fat' WORM? • When will the WORM be operational? • Why do you need to complete the WORM prior to FSRUs coming online? • Concern was raised about the potential for stranded assets - WORM and other potential expansions. • Could you roughly estimate the capex difference and the tariff difference between the small and large WORM. Those numbers would be good to have at a later session - and on the basis that the FSRU remains / and withdraw after 3-5 years. 	<p>The plan is for the WORM to be operational by September 2022.</p> <p>APA has given further consideration to the timing, costing and practicality of augmenting the capacity of original plan for the WORM. Our current position is that it is not prudent nor practical to increase the size of the WORM. This decision does not preclude consideration of other options to augment the VTS, eg. Compression.</p> <p>This will be followed by a workshop (proposed for 28 April) to understand the strategic drivers for investment in the VTS.</p>

Are there any questions or comments?

Engagement update



Engagement plan

We have revised the engagement activities and timelines

- Provided (draft) dates for
 - Future roundtables
 - Capex workshop
 - Release of issues papers
 - Release of Consultation draft proposal
- Indicated where each activity sits on the IPA2 spectrum
- **We would like to hear from you if these dates are suitable or not.**

Updated engagement timeline



Phase	Date	Activity	Topics	IAP2 spectrum
Phase 1 - Getting to know VTS and regulatory framework				
	28/10/2020	Roundtable 1	Setting the scene, about APA, VTS and the regulatory landscape & draft engagement plan	Inform/ Consult
	25/11/2021	Roundtable 2	Declared wholesale market exit and entry capacity certificates (presentation by AEMO) & reference services draft proposal	Inform/ Consult
	10/02/2021	Roundtable 3	APA asset management framework & strategic issues influencing VTS asset management plan.	Inform/ Consult
Phase 2 - Getting to the detail - revenue requirements, tariffs and access arrangements				
	16/03/2021	Roundtable 4	Introduction to regulatory building block and VTS tariff structures	Inform/ Consult
	14/04/2021	Roundtable 5	AEMO Victorian Gas Planning Report summary. Demand forecasts and utilisation.	Inform/ Consult
	14/04/2021	Issues Paper	Issues impacting capital program, depreciation	Involve
	28/04/2021	Workshop	Further discussion about strategic issues affecting capital program	Involve
	19/05/2021	Roundtable 6	First look at the capital program for VTS and key drivers. Depreciation. Return on capital.	Involve
	16/06/2021	Roundtable 7	Further draft of capital program.	Involve
			First look at operating expenditure forecasts, efficiency mechanism and other revenue components.	Involve
			Making changes to the Access Arrangement - expansion requirements and other elements	Involve
	14/07/2021	Roundtable 8	Total revenue, revenue allocation and tariff structures	Involve
	14/07/2021	Information/ Issues Paper	VTS tariff structures	Inform/ Involve
	18/08/2021	Roundtable 9	Continue discussion on cost allocations and tariff structures..	Involve
			Making changes to the Access Arrangement	Involve
	22/09/2021	Roundtable 10	What we've heard so far, our response. Further opportunity for input.	Involve
Phase 3 - Putting the plans together				
	6/10/2021	Consultation	APA release Consultation draft proposal for comment	Involve
	13/10/2021	Roundtable 11	Early consultation proposal - questions and answers session	Involve
	17/11/2021	Roundtable 12	Our draft proposal and how you shaped our thinking.	Involve

Calculating regulated revenue – building blocks and tariff structures



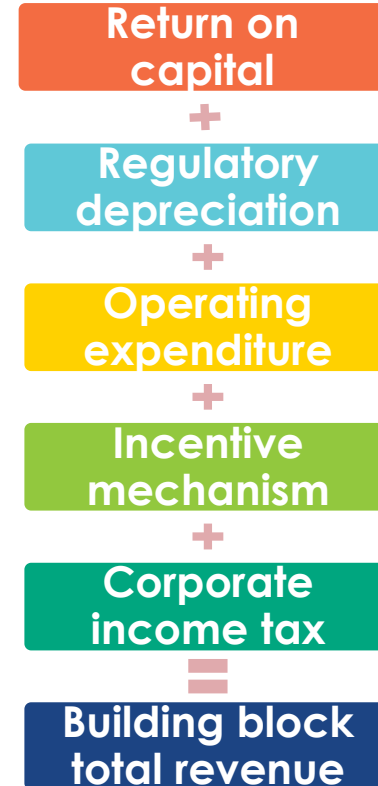
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Regulatory building blocks

- Rule 76 of the National Gas Rules defines the **building block approach**. This is the method for calculating regulated revenue for the VTS
- Rule 76 is in that part of the Rules for price and revenue regulation.
- In this presentation, we shall talk about the way in which the building block approach is applied to determine the prices – the reference tariffs – of an access arrangement.
- More importantly, this discussion of building blocks will allow us to identify many of the aspects of access arrangement revision on which we are seeking stakeholder input.

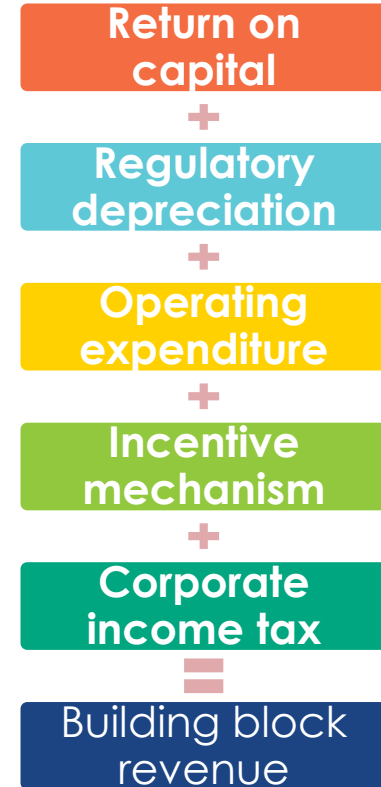
Building block approach

- Reference tariffs for an access arrangement are to be calculated from the total of the costs expected to be incurred by an efficient service provider
- This total of the costs expected to be incurred is called the **building block total revenue**
- If costs are incurred as expected, and if forecasts of service provision are realised, the reference tariffs of an access arrangement should allow the service provider to recover only its efficiently incurred costs, including a return on investment.



Components of the building block

- **Return on capital.** Return on the amount the service provider has invested in pipeline and other assets (the **capital base**).
- **Regulatory depreciation.** Return of the service provider's investment (**return of the capital base**).
- **Forecast operating expenditure.**
- **Incentive mechanism.** Increments or decrements resulting from the operation of an incentive mechanism to encourage gains in efficiency.
- **Tax.** Estimated cost of corporate income tax.
- **We will engage with you on these components in Roundtables 6 to 8.**
- **More details about the building block components are presented in the appendix.**



Total revenue and cost allocation

- We must use the AER's Post-tax Revenue Model (PTRM) to determine the total revenue for VTS.
- The tariff for a service is usually calculated as the total revenue (total cost) allocated to that service, divided by the volume of service expected to be provided over the access arrangement period.
- **Cost allocation** is to be in accordance with specific rules in the National Gas Rules.
- APA VTS offers a single service, the reference service, which is the tariffed transmission service. As a result, all costs associated with the VTS are allocated to this service.
- **In Roundtable 8, we shall engage with you how we propose using the Post-tax Revenue Model for determining the total revenue for VTS, and the allocation of revenue/costs into VTS tariffs.**

Reference tariffs

- Once the total revenue has been allocated to reference services, we can determine the tariffs for those services.
- The tariff for a service is usually calculated as
 - the total revenue (total cost) allocated to that service, divided by
 - the volume of service expected to be provided over the access arrangement period.
- Forecasting service volumes for VTS will be based on AEMO's forecasts
- We shall engage with you on the demand forecasts in Roundtable 5 and reference tariffs in Roundtable 9.

Questions



**Do you have any questions about the
Regulatory building block methodology?**

VTS Tariffs



The regulatory requirements

- **A key driver of tariff design under the National Gas Rules is efficiency:**
 - Customer usage of the pipeline system (allocative)
 - Minimise costs - consistent with the efficient operation and maintenance (technical)
 - Signal efficient new investment in the pipeline system (dynamic)
- **Other important criteria are:**
 - Simplicity and predictability
 - Price stability - avoiding price shocks

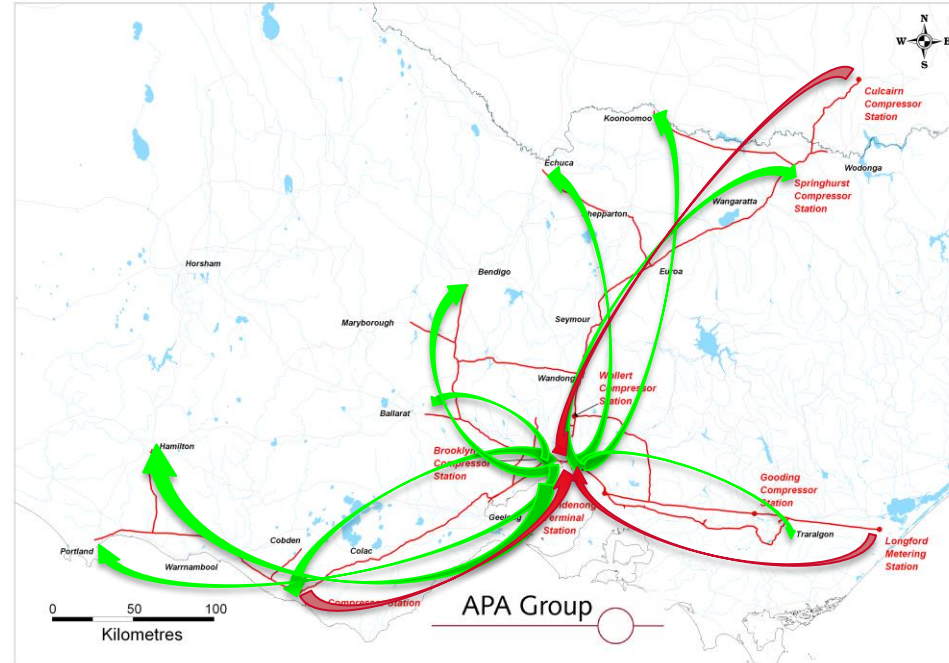
Current tariff structures

- **The current tariff structures (and the tariff model) have been in place for over 20 years:**
 - Tariffs are based on zones within the VTS
 - Zonal tariffs reflect the cost of the assets in each of the zones – therefore cost reflective
 - The tariffs have been changed to reflect the changes to the VTS injection and withdrawal points
- **Under the DWGM, market participants can operate solely as**
 - Injecting parties (suppliers), or as
 - Withdrawing parties (buyers).
- **Therefore injectors and withdrawers as potentially separate classes of users, and derive tariffs for injection into the system, and for withdrawal from the system separately.**

Current tariff structures



- **Suppliers bring gas to the market**
 - The **injection tariff** applies to suppliers
 - The **Five injection points** are Longford, Port Campbell; Pakenham; Dandenong, Culcairn
 - The injection tariff recovers the costs of “injection” pipelines
- **Buyers procure their gas from the market**
 - The **withdrawal tariff** applies to deliver gas from the market to the point of consumption
 - The withdrawal charge recovers the cost of transmission from the injection pipeline to the user.



The current tariff structure

Injection tariffs

- To signal peak use to market participants (which drives expansion costs), the injection charge is levied on the ten peak injection days over the winter at each injection zone.
- If a supplier injects on a top ten peak day, it pays the injection charge
- If a supplier does not inject on a non-top-ten day, it does not attract an injection charge
 - These days are not known in advance
 - In 2020, eight of Longford's top ten peak days were weekdays; two were Saturdays
 - An industrial customer operating a weekday work schedule would only incur 80% of the injection charges of a seven-day operator
- An injection charge 'wash-up' is performed after September each year when the actual peak days are known.
- Current Longford injection tariff = $\$1.9501 \times 10 \div 365 \sim \$0.053/\text{GJ}$

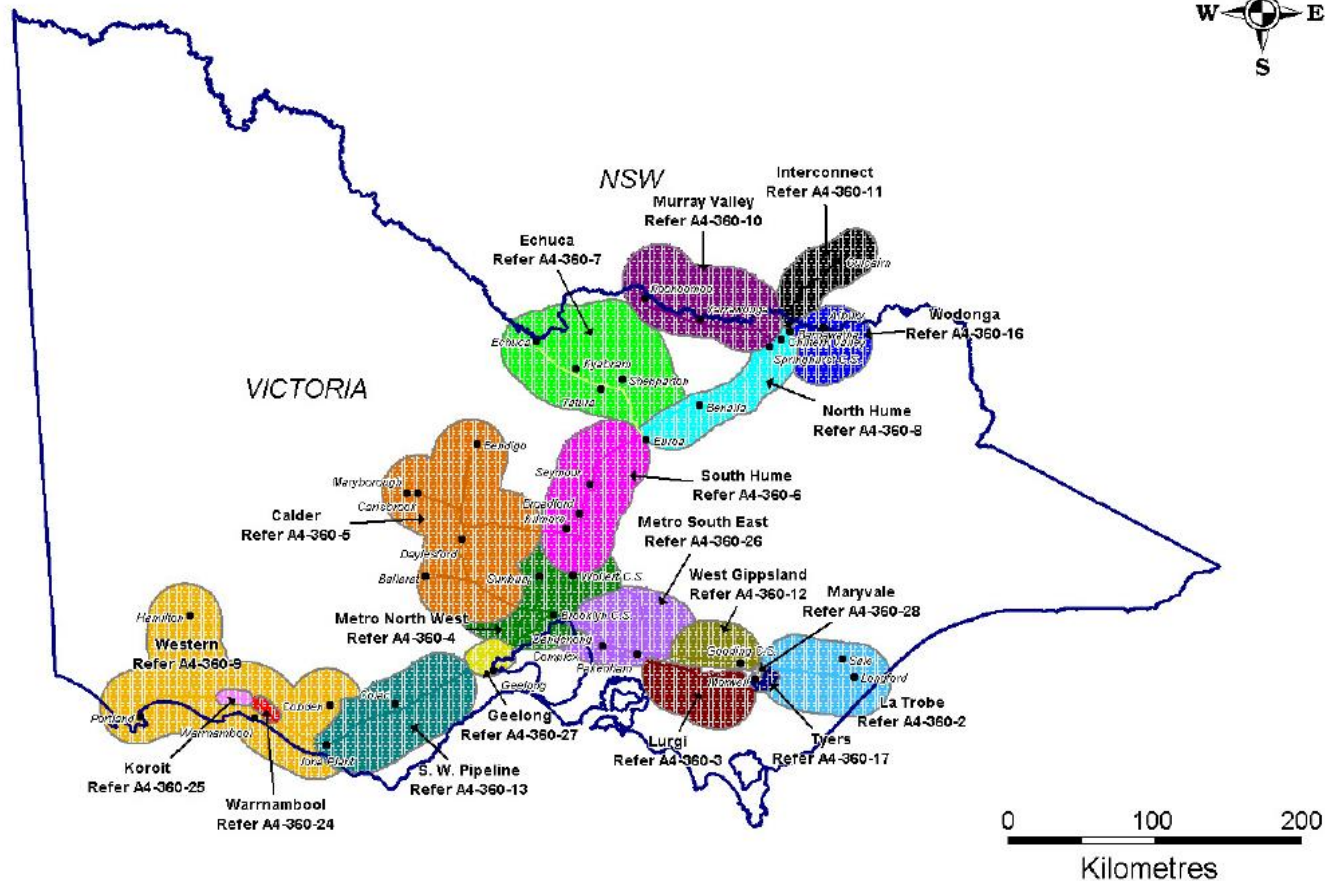
Longford
22-Jun-20
3-Jul-20
25-Jul-20
31-Jul-20
4-Aug-20
5-Aug-20
6-Aug-20
7-Aug-20
21-Aug-20
22-Aug-20

The current tariff structure

Withdrawal tariffs

- The system is divided into 25 withdrawal zones, and tariffs levied on the withdrawing user.
- Within each withdrawal zone there are up to three tariff classes.
 - These tariff classes are Tariff-D and Tariff-V which are supplemented in some circumstances by a cross system tariff
- Cost of transmission through the withdrawal zones is based on a forecast of physical flows.
 - That is, recover the costs of withdrawal pipelines on an “any day” per GJ throughput, rather than capacity, basis
- Subject to a flow analysis model:
 - Downstream deliveries must contribute to upstream pipelines, and
 - a “cross system” tariff for gas that crosses the metro area
- Withdrawal tariffs distinguish between the end use of the gas
“Tariff V” (Volume) and “Tariff D” (Demand)
- The withdrawal charge is levied on the actual flows each month (an ‘anytime’ charge).

APA VTS withdrawal tariff zones



How to work out the tariffs?



APA VTS TUoS Reference Tariffs: Applicable from 1/1/2021 to 31/12/2021
 Tariffs are GST exclusive & do not include AEMO charges.

Total delivery cost =
 Sum(Injection + Withdrawal)

Delivery Charges		Matched Delivery Charges		Injection Charges (top-10 winter MDQ at source)							
Annual Volume	Annual Volume	Annual Volume		101	103	105	109	107/111	108	110	
Tariff-D	Tariff-V	Injected at	Tariff-D	Tariff-V	Longford	Culcairn	Iona	Pakenham	VicHub/ TasHub	SEAGas	OtwayGas
\$/GJ	\$/GJ		\$/GJ	\$/GJ	\$/GJ	\$/GJ	\$/GJ	\$/GJ	\$/GJ	\$/GJ	\$/GJ
1 LaTrobe	0.1669	0.1658			0.3858	1.2715	1.9503	0.3147	0.3858	1.9503	1.9503
2 West Gippsland	0.2058	0.2293			1.1700	1.2715	1.9503	0.3147	1.1700	1.9503	1.9503
3 Lurgi	0.2447	0.2929			0.5513	1.2715	1.9503	0.3147	0.5513	1.9503	1.9503
4 Metro North West	0.3459	0.3734			1.9501	1.2715	1.9503	0.3147	1.9501	1.9503	1.9503
5 Calder	0.7870	0.9923			1.9501	1.2715	1.9503	0.3147	1.9501	1.9503	1.9503
6 South Hume	0.3060	0.3654			1.9501	1.2715	1.9503	0.3147	1.9501	1.9503	1.9503
7 Echuca	0.6580	1.1083			1.9501	1.2715	1.9503	0.3147	1.9501	1.9503	1.9503
8 North Hume	0.7832	1.1606	Culcairn	0.3305	0.4353	1.9501	1.2715	1.9503	0.3147	1.9501	1.9503
9 Western	0.7456	1.1142			1.9501	1.2715	0.0000	0.3147	1.9501	0.0000	0.0000
10 Murray Valley	0.6330	0.9317			1.9501	1.2715	1.9503	0.3147	1.9501	1.9503	1.9503
11 Interconnect	0.8109	0.8109	Culcairn	0.1659	n/a	1.9501	0.3096	1.9503	0.3147	1.9501	1.9503
13 South West	0.1659	0.1658			1.9501	1.2715	0.6998	0.3147	1.9501	0.6998	0.6998
17 Wodonga	0.8839	1.5029	Culcairn	0.1922	0.2157	1.9501	1.2715	1.9503	0.3147	1.9501	1.9503
18 Tyers	0.2024	0.2102			0.5513	1.2715	1.9503	0.3147	0.5513	1.9503	1.9503
19 NSW Export	0.8390	n/a			1.9501	1.2715	1.9503	0.3147	1.9501	1.9503	1.9503
20 Metro South East	0.3459	0.3734			1.9501	1.2715	1.9503	0.3147	1.9501	1.9503	1.9503
21 Warrnambool	0.1128	0.1900			1.9501	1.2715	0.0000	0.3147	1.9501	0.0000	0.0000
22 Korait	0.2376	0.7127			1.9501	1.2715	0.0000	0.3147	1.9501	0.0000	0.0000
23 Refill LNG	0.0575	n/a			1.9501	1.2715	1.9503	0.3147	1.9501	1.9503	1.9503
24 Geelong	0.2532	0.3030			1.9501	1.2715	1.9503	0.3147	1.9501	1.9503	1.9503
25 Maryvale	0.0640	n/a			0.3858	1.2715	1.9503	0.3147	0.3858	1.9503	1.9503
31 VicHub	0.0000	n/a			0.3858	1.2715	1.9503	0.3147	0.3858	1.9503	1.9503
32 Refill WUGS	0.0843	n/a			1.9501	1.2715	1.9503	0.3147	1.9501	1.9503	1.9503
33 SEAGas	0.0230	n/a			1.9501	1.2715	0.0000	0.3147	1.9501	0.0000	0.0000
34 Otway Gas	0.0230	n/a			1.9501	1.2715	0.0000	0.3147	1.9501	0.0000	0.0000
			Longford	0.0000	n/a						
			Iona	0.0000	n/a						
			Iona	0.0000	n/a						

Example:

Inject Longford
 Withdraw Bendigo,

Tariff V:

Injection:

\$1.9501 x 10 ÷ 365
 ~ \$0.053 /GJ

Withdrawal:

Calder zone \$0.9923 /GJ

Total: ~ \$1.0457 /GJ

The tariff schedule features a number of **Matched Delivery Charges** to accommodate the circumstance in which the shipper's *matched* volumes are withdrawn part way along the injection pipeline.

Cross System (incremental) : 0.1808 0.2046

What are your views about the VTS tariff structure?

- **What are your views about the current tariff structure?**
 - Are they cost reflective?
- **Is there an appetite to change to the current tariff structure?**
- **We seek your views on this point.**

What we have heard about tariff structures so far



Topic	Issues raised by stakeholders
Tariff structures – cost reflectivity	<ul style="list-style-type: none">• The VTS tariffs are complex but they are cost reflective. Acknowledge that there are competing matters to balance such as locational pricing, load factors etc.• Tariffs aren't cost reflective with respect to load factors. There is cross-subsidising of smaller customers during winter - because of the allocation of prices based on 10 days of maximum load capacity.
Tariff structures - simplicity	<ul style="list-style-type: none">• More explanation is needed of the tariff structures which read like hieroglyphics. More supportive information is required.• Explain tariffs in simple terms. How does it work? Who bears the risk? How much do customers pay?
Tariff structures	<ul style="list-style-type: none">• Discussion about scope for price changes and within period changes and side constraints.• Large customers do not want significant changes to Tariff D.• I'd like to see the Culcairn withdrawal fee dropped significantly to be more aligned with SWP withdrawal levels, and the removal of the retrospectively calculated 10 peak day injection charge.
Tariff side constraints	<ul style="list-style-type: none">• Discussion about scope for price changes and within period changes and side constraints.

- **Summary of key outcomes from today**
- **Next roundtables**
 - R5 planned for Wednesday, 14 April 2021
 - **The next roundtable in April will include a presentation from AEMO on 2021 Victorian Gas Planning Report**
 - **Capital program Issues Paper planned to be available on 14 April 2021**
 - Workshop – Strategic Issues affecting VTS capital program on 28 April 2021
- **Forward any further comments or questions to Scott and Nives**

**Thank you for participating,
See you in April....**



To ask any questions or provide feedback on the APA's VTS access arrangement or stakeholder engagement plans, to request an invite to an engagement session, or to arrange a private consultation, please contact:

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Or visit the VTS stakeholder engagement webpage:

<https://www.apa.com.au/about-apa/our-projects/victoria-transmission-system-access-arrangement/>

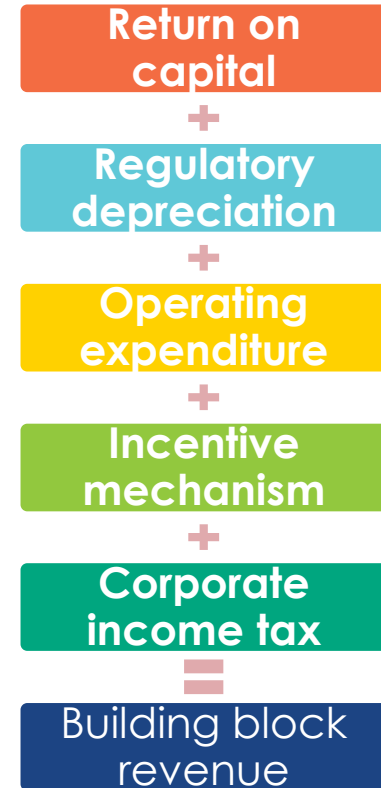
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Appendix – More information about the Building block



Components of the building block

- Further information about the building block is presented in the following slides.



Capital base and capital expenditure

- The capital base is rolled forward from one year to the next.
- Efficient new capital expenditure is added; depreciation is deducted.
- Capital expenditure can only be added to the capital base, for recovery via reference tariffs, if
 - it is expenditure that would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice,
 - to achieve the lowest sustainable cost of providing services.
- The Australian Energy Regulator will carefully scrutinise our expenditure proposals to ensure they pass this test.
- In Roundtable 5 (April) we will go through AEMO's Victorian Gas Planning Report. Then in Roundtable 6 (May) we will commence engagement with you on our capital expenditure plans for the access arrangement.

Return on capital

- Return on capital is calculated by multiplying the capital base, at the start of each year, by the rate of return allowed by the AER.
- The allowed rate of return is a weighted average of an allowed rate of return on equity, and an allowed rate of return on debt; the weight given to debt in this weighted average is the gearing.
- Allowed rate of return determination, once contentious, is now to be in accordance a (statutory) rate of return instrument made by the Australian Energy Regulator.
- **We shall explain to you how we are proposing to apply the rate of return instrument, but there is limited scope as to what and how it is applied.**

Depreciation

- For VTS, we use the **indexed straight line method**, which the AER requires for the calculation of regulatory depreciation.
- **If there is**
 - No inflation, the indexed straight line method produces simple straight line depreciation;
 - High inflation, the method defers the return of capital until later in the life of an asset.
- **We shall engage with you on depreciation in Roundtable 6 (May). We welcome any views you may have.**

Forecast operating expenditure

- Forecast operating expenditure for the access arrangement period is an important input into reference tariff determination.
- Again, the AER will carefully scrutinise our forecast for VTS, to ensure that it meets the test of the National Gas Rules:
 - forecast operating expenditure must be such as would be incurred by a prudent service provider acting efficiently, in accordance with accepted good industry practice,
 - to achieve the lowest sustainable cost of delivering pipeline services.
- We **use the base, step and trend method** to forecast operating expenditure; this method has previously been accepted by the AER.
- **We shall engage with you on operating expenditure in Roundtable 7. We welcome any views you may have.**

Incentive mechanism

- The AER has previously approved an **incentive mechanism** to encourage our seeking efficiencies in the operation of the VTS.
- This incentive mechanism is the **Efficiency Carryover Mechanism** in section 3.6 of the current VTS Access Arrangement.
- **We shall engage with you on the Efficiency Carryover Mechanism in Roundtable 7.**

Estimated cost of corporate income tax

- At the request of the Minister for Energy, the AER undertook, during 2018, a review of its regulatory tax approach.
- Recommendations from this review were implemented, as changes to the AER's Post-Tax Revenue Model, early in 2019.
- For VTS, we intend to rely on the method of estimating the cost of corporate income tax now in **the Post-Tax Revenue Model**.
- **We expect to be able to show you how we intend to apply the Regulator's approach to estimating the cost of tax, and will ask for any views you may have.**

Total revenue and cost allocation

- We must use the AER's Post-tax Revenue Model (PTRM) to determine the total revenue for VTS.
- The tariff for a service is usually calculated as the total revenue (total cost) allocated to that service, divided by the volume of service expected to be provided over the access arrangement period.
- **Cost allocation** is to be in accordance with specific rules in the National Gas Rules.
- **In Roundtable 8, we shall engage with you how we propose using the Post-tax Revenue Model for determining the total revenue for VTS, and the allocation of revenue/costs into VTS tariffs.**

Tariff variation mechanism

- Our access arrangement must specify the way in which reference tariffs are to vary during the access arrangement period.
- Section 4.6 of the current VTS Access Arrangement sets out the tariff variation mechanism variation – which allows tariffs to be adjusted for inflation, updates to the cost of debt and for certain unforeseen changes in costs.
- **At this stage we have no intention to suggest amendments to the tariff variation mechanism.**

Terms and conditions

- The current VTS Access Arrangement sets out terms and conditions on which we will provide a single firm service reference service.
- We will consider the need to review our services, and the terms and conditions on which they are provided, in the light of the Australian Energy Regulator's decision on our reference service proposal.
- A VTS access arrangement must set out extension and expansion requirements.
- **We will seek your views on changes to the terms and conditions services in Roundtable 9 (August).**