

Transmission Pricing Review

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Overview

- Context – current environment
- The review process
- Overview of stage 1
- Overview of consultation paper
 1. Framework
 2. High level options
 3. Further issues
 4. Filtering criteria
- Presentation from Rajat Sood, Frontier Economics
- Next steps

Context – current environment

Transmission environment

- Significant transmission investment
- Possible power flow changes

Market developments

- More emphasis on security of supply
- Other initiatives may impact on investment signals
- Are current arrangements leading to efficient investment decisions?

Local and overseas experience

- Formal and informal requests for review
- International experience

The review process

Stage 1:

Q2 - Q4 2009

High level options

Stage 2

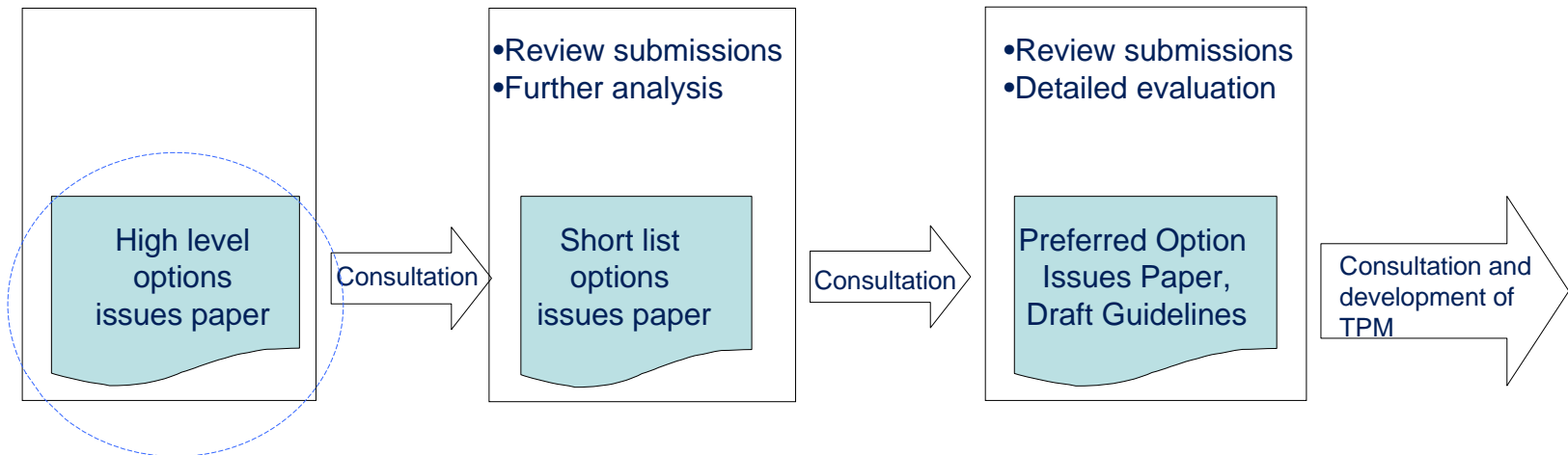
Q4 2009 - Q2 2010

Short list of options

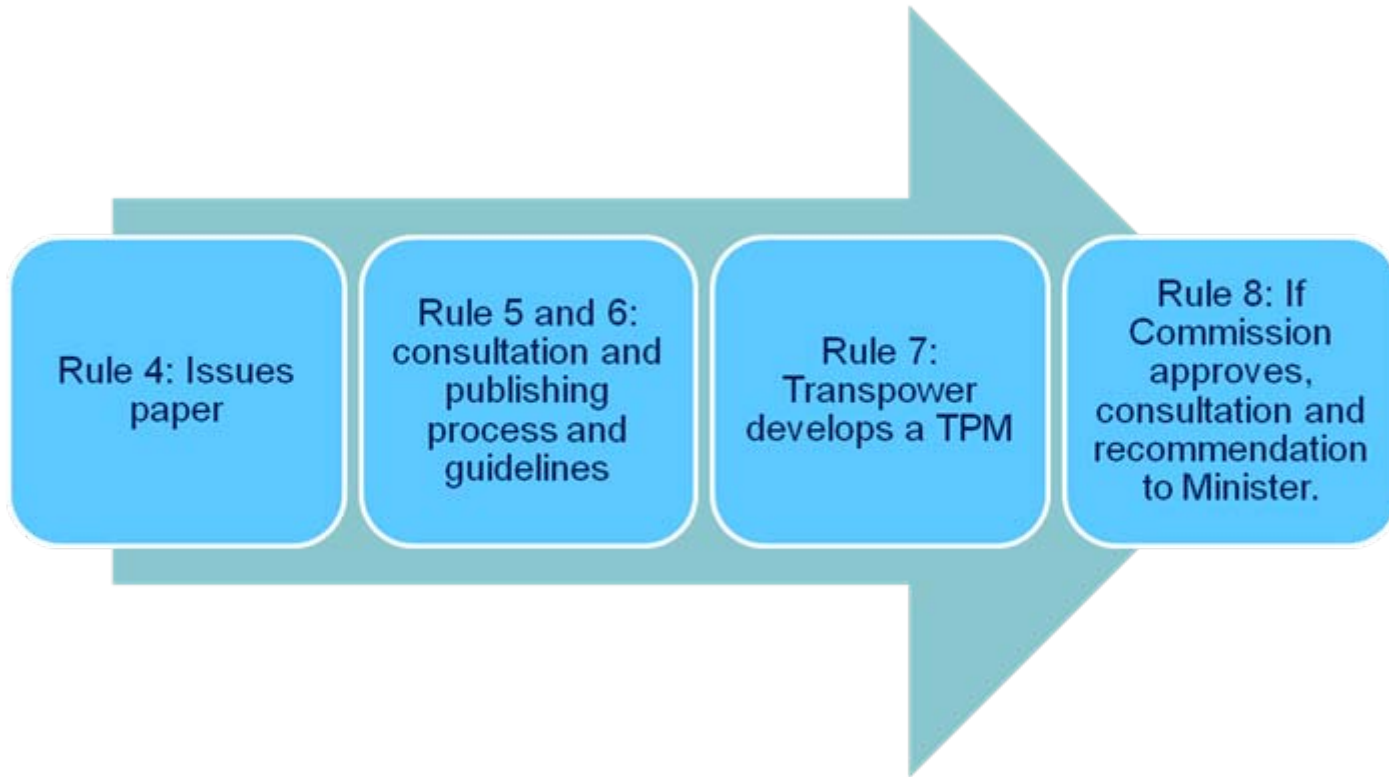
Stage 3

Q2 - Q4 2010

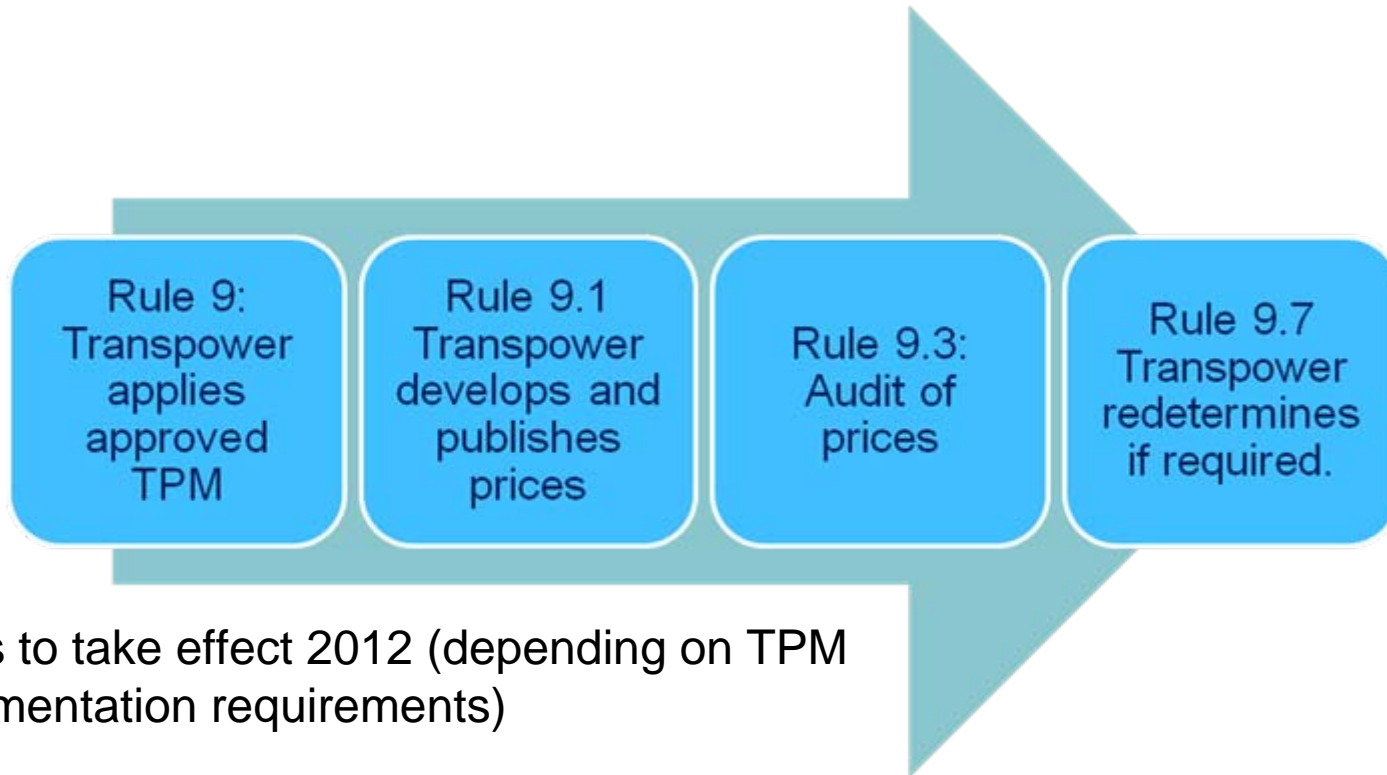
Detailed evaluation of preferred option



TPM consultation and development

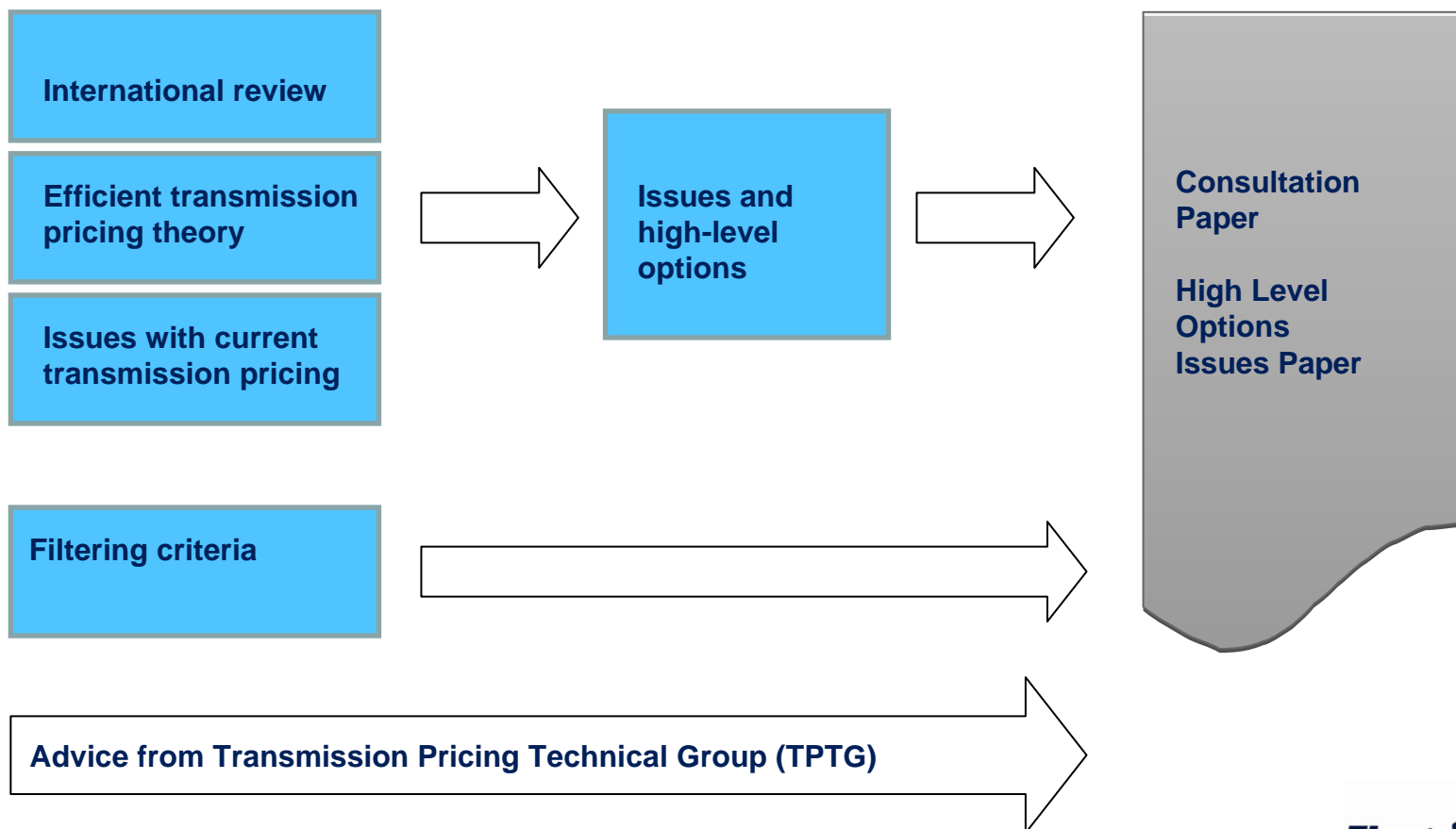


Development of transmission prices



Prices to take effect 2012 (depending on TPM implementation requirements)

Overview of Stage 1: High level options



1. Framework

Policy and regulatory considerations

- Electricity Act (Principal objectives)
- Rules (pricing principles)
- GPS

Efficient pricing theory

- Frontier report on efficient pricing theory

International review

- Frontier review of international experience

Issues with current pricing

- TPTG issues with current transmission pricing
- Other issues

Focus of high-level options

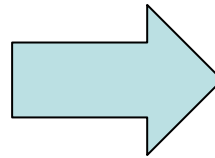
Stage 1

Locational cost allocation

Are locational signals from nodal pricing, GIT, and TPM sufficient?

If not why not?

Should we make changes?



Stage 2

Pricing structure

What should the basis of the charges be?

Issues with current transmission pricing

- Current arrangements may provide insufficient locational signals (for example in USI and UNI)
- Existing HVDC charges may be too blunt (especially including pole 3)
- Potential providers of transmission alternatives must contract with Transpower
- Link between price and service
- Static reactive compensation
- Is there an issue with connection?

2. High level options

Further locational signals

Status quo

Postage stamp for interconnection
Deep connection
HVDC charge

'Tilted' postage stamp

Postage stamp graduated by region

Augmented nodal price signals

Charges address deficiencies in nodal prices
(Grid revenue = \$600m, loss and constraint revenues
\$40m to \$200m)

Load flow approaches

Charges based on flow-based asset allocation
Based on existing network or forward-looking

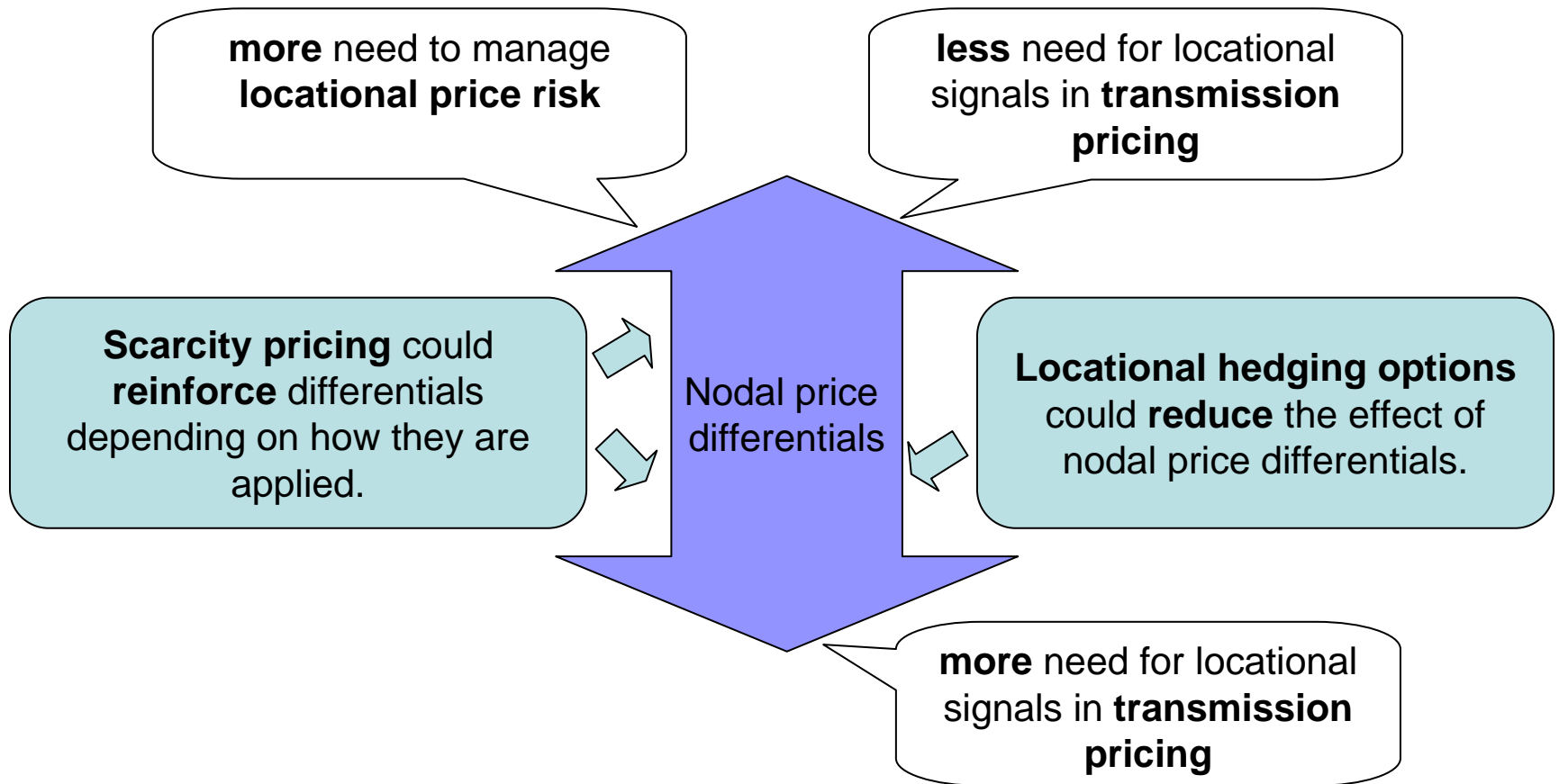
3. Further issues

- Treatment of connection costs
- Treatment of transmission alternatives (market signals)
- Linkages with locational hedges and scarcity pricing
- Service quality and pricing
- Static reactive compensation

4. Filtering criteria from consultation paper

1. Divergence from efficient investment (nodal prices)
2. Theoretical precision
3. Locational hedging option
4. Network topology
5. Information requirements and implementation difficulty
6. Governance arrangements
7. Good regulatory practice
8. Stakeholder acceptability

Linkages



Rajat Sood, Frontier Economics

Next steps

- Submissions
 - Are there other high level options?
- Further analysis
 - Are further locational signals required:
 - Are nodal prices muted?
 - How much and why?
 - Will locational signals lead to improved efficiencies?
- Short list of options (mid 2010)

Useful references

- [Frontier Economics, Theory of efficient pricing of electricity transmission services, July 2009](#)
- [Frontier Economics, International transmission pricing review, July 2009](#)
- [Strata Energy Consulting, Report on transmission pricing methodologies - 1998 to 2008](#)
- [Strata Energy Consulting, a discussion paper concerning transmission pricing issues identified by the TPTG](#)
- [Covec, Locational signals for new investment, August 2004](#)
- [E. Grant Read, Locational Transmission Pricing, report prepared for Mighty River Power, February 2007](#)
- [Electricity Commission, Transmission Pricing Methodolgy Final Decision Paper, June 2007](#)

Questions or comments