Next generation access

Encouraging investment and competition

IIR Regulatory Cost Modelling & Accounting 27th May, 2009

Policymakers are increasingly focused on ensuring access to high speed broadband

Policies typically have twin aims

Encourage investment

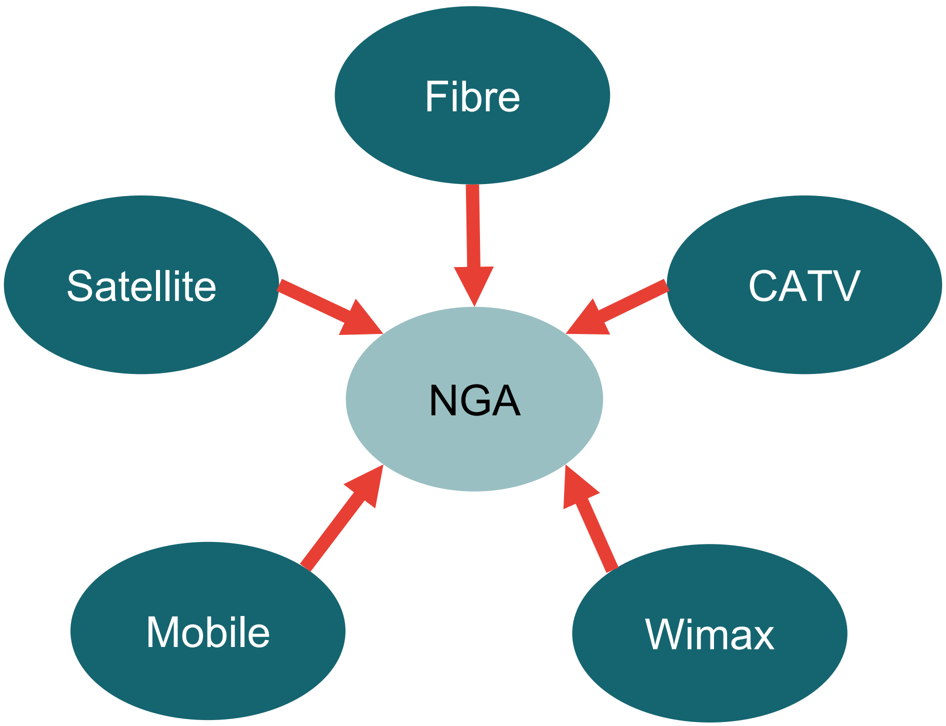
Promote competition

But, is it possible to achieve both?

- This presentation looks at
  - Why ensuring access to high speed broadband (“NGA”) may require a new approach
  - Two main policy models which have been applied to date

- Why is NGA different?
- Two models
- Conclusion

High speed broadband can be provided using a range of solutions

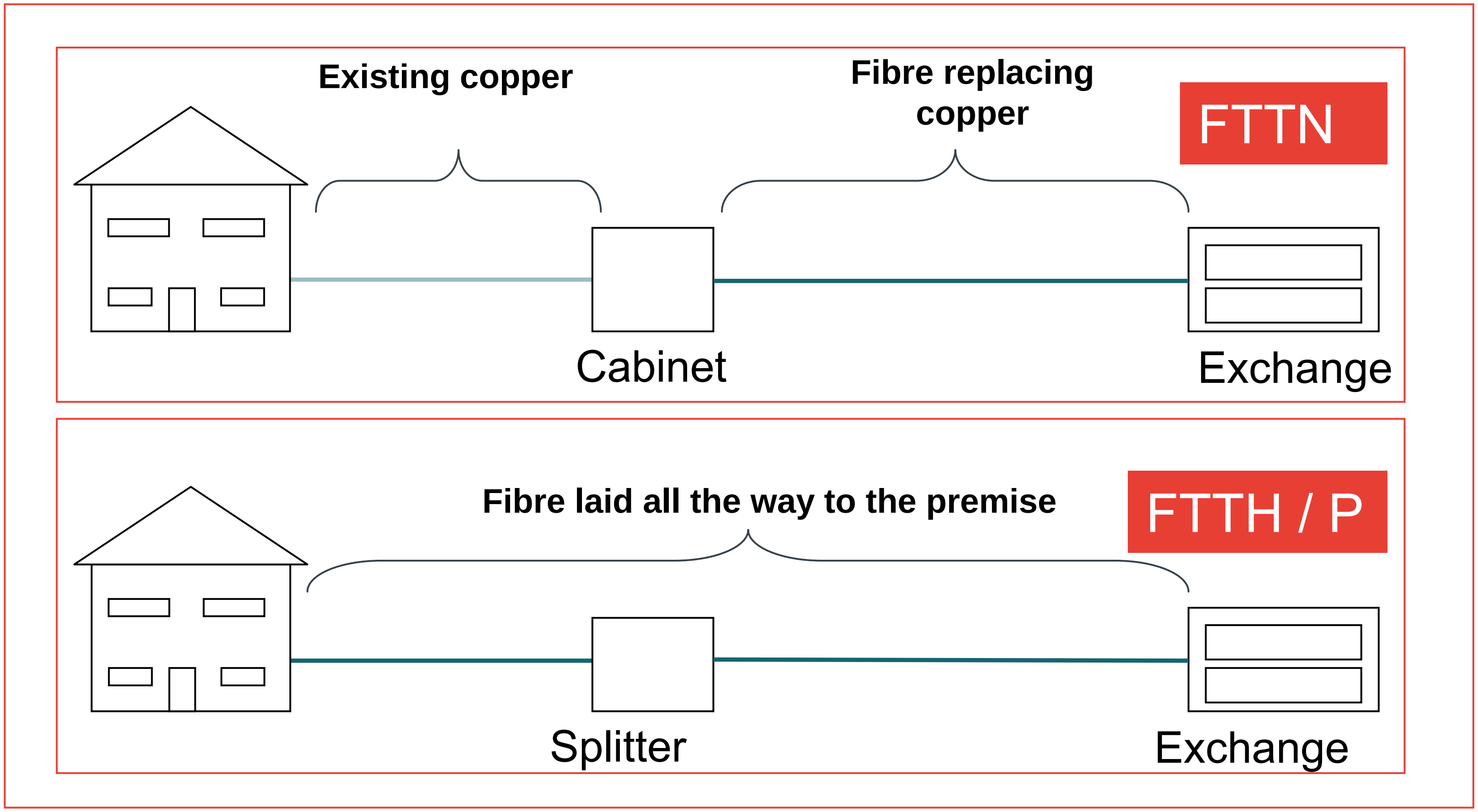


Unlikely to be a one-size fits all model

- Universal coverage may rely on more than one solution
  - Wireless solutions in less-populated areas
  - Wired solutions in towns and cities
- Much initial focus on the roll out of fibre
  - Also the focus of this presentation

Rolling out fibre closer to the premise will increase available speeds

- Two primary models for upgrading existing copper networks



However, business case for large scale roll out not yet fully proven

Costs are significant…

- In the UK, BSG has estimated
  - Deployment costs for national FTTC c£5 billion
  - Deployment costs for national FTTH c£25 billion
- Civil works (duct and trenching) costs the most significant elements

…and returns are uncertain

- Future demand and willingness to pay for high speed services unclear
  - Unlike PSTN services
- Potential impact of competition
  - Primarily through other solutions?
  - Role of existing LLU operators?
- Regulation will affect returns
  - Existing and new regulation

Operators will only invest where they can earn a reasonable return

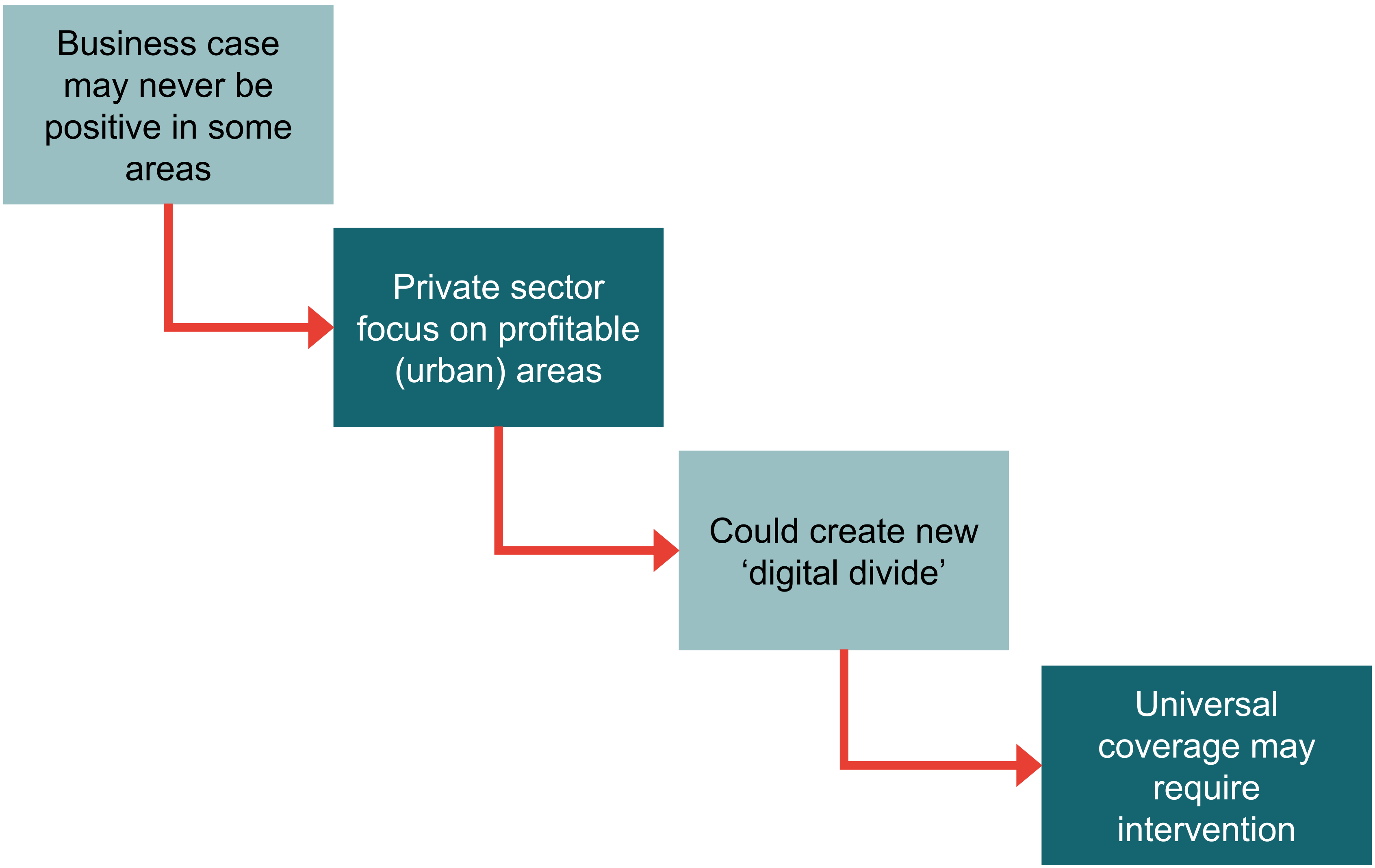
Given risks, required return likely to be higher than current regulated returns

Return partly dependent on regulation and access regime in particular

Balance creation of investment incentives and preventing exploitative behaviour

- Current regulation introduced after networks were rolled out
  - Primarily regulating return on a sunk investment
- Not the case for NGN
  - Regulators have a key role in creating conditions for roll out
  - But need to also consider impact on competition

Deployment may also raise new universal service issues



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Faced with these challenges, two broad models have emerged to further NGA

Model 1

Private sector investment with certainty over regulatory framework

- European approach (although some government support for certain regions)
- Two objectives
  - Provide certainty to investors as a way of promoting investment
  - Apply open access principles of EC framework to bottleneck facilities
- Consultations issued by some national regulators
- Remedies imposed by some regulators for new markets 4 and 5
- EC draft recommendation on NGA

Model 2

Public-private partnership for network build with access conditions attached

- Government invests in NGA rollout
- Tender process to select private sector partner
- Contract terms stipulate access terms and conditions for other parties
- Possibly also impose separation on network operator
- Recent examples in Singapore (NGNBN) and Australia (NBN Tender Process)

In many countries, the focus is on first model

Model 1	**Model 1**
Free market investment with certainty over regulatory framework	• EC, Ofcom, ARCEP and others have published proposals ◦ In some cases detailed regulation not yet defined – consultations focus on principles • Focus on infrastructure rather than services • Passive infrastructure regulation before NGA roll out

Model 1

Regulators are distinguishing passive and active access

Passive access

Products rely on access to physical network elements like copper, fibre or duct

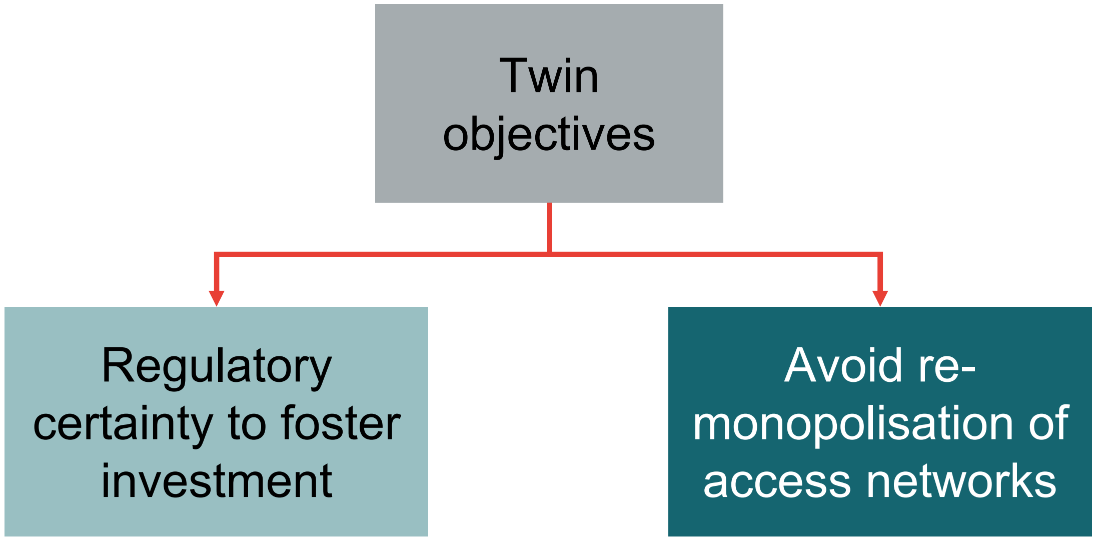
Focus of EC Draft Recommendation
ARCEP (and others) significant work on duct access

Active access

Products rely on access to electronics connected to infrastructure

Ofcom views economics of active access as favourable – but acknowledges potential benefits of PA

The EC's proposals deal with NGA as part of existing regulatory framework



- Focuses on access to passive infrastructure – primarily ducts (represent significant % of rollout costs)
- Fall back on dark fibre or active access products where infrastructure competition not viable
- Excessive obligations to be avoided in emerging retail markets

Model 1

The EC considers that duct access should be provided on cost oriented terms

- Differentiates between legacy and new duct but overall, no significant change in cost accounting approach

<u>Existing duct</u>

Cost based price

=

Historic (current) cost minus depreciation

+

Proportionate share of common costs

<u>New duct</u>

Cost based price

=

Costs incurred

+

Project specific risk premium

Based on CAPM model

- Envisages preparation of Duct Access Offers

Model 1

However, infrastructure competition based on passive access is largely untested …

- Unclear if competition based on competing access networks, even where sharing infrastructure, is viable and efficient

✓

- Some estimates suggest cost of civil works accounts for up to 80% of NGA roll out costs
- Sharing will put incumbent and alternative providers on more equal footing

✗

- OPTA study concluded that sub-loop unbundling not viable under current wholesale prices
- Where competing NGAs are being rolled out, operators choose to serve new areas, not overbuild
- Many regulators have struggled to develop workable processes for simpler co-location services

Model 1

In the UK a number of stakeholders have looked at NGA

Caio Review, 2008

- Independent review of barriers to NGA investment
  - No case for major government intervention
  - Accelerate release of radio spectrum
  - Specifications for new build
  - Amend planning laws to support overhead fibre

Digital Britain, 2009

- Stemmed from the Caio Review
- On NGA looks at four main areas
  - Universal access
  - The role of local initiatives in NGA
  - Implementing recommendations from Caio Review
  - Maximising uptake of broadband

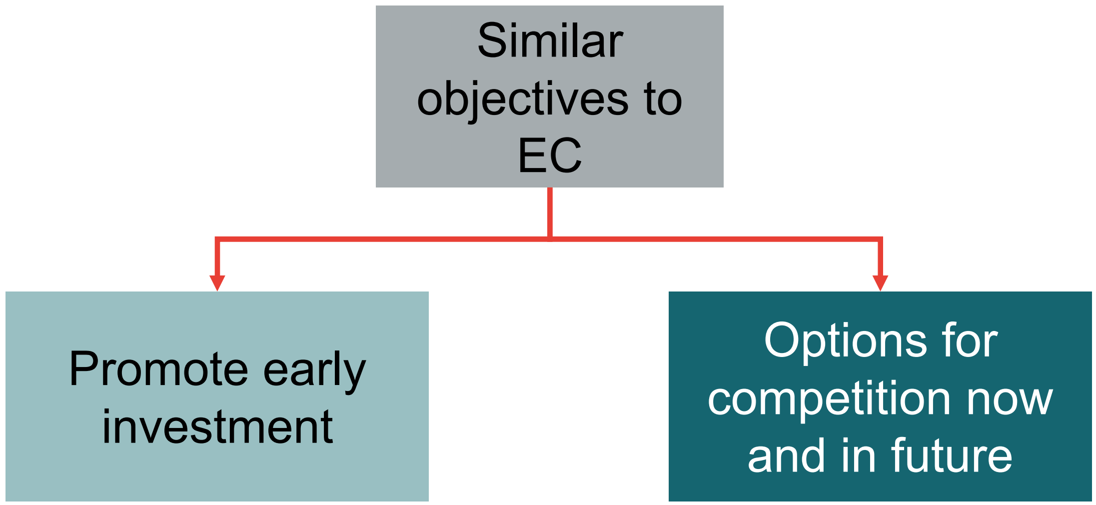
Ofcom consultations, 2007-09

- Consultations on NGA
  - NGA new build
  - Promoting investment and competition
- Final regulatory statement published March 2009
  - Sets out broad principles of regulation

Model 1

Ofcom has placed relatively more emphasis on active access products

- Focuses on investments made by players with SMP and BT's proposed FTTN solution



- Believes active products will be key to delivering competition
  - Relatively limited demand for passive products and economics uncertain
  - But should be pricing flexibility on active products

Model 1

Likely that final regulatory models may include both active and passive products

- Many European regulators investing significant time and resources in developing regulatory frameworks
- Some relatively more advanced
  - ARCEP requiring FT to offer cost oriented duct access
  - Publication of Duct Access Offer
- Active access products still in development
- In a number of markets operators are starting to deploy NGA networks

… Time will tell if balance between investment and competition is right

Model 2

There is increasing recognition of a role for Government in high speed broadband rollout

USA
- FCC National Broadband Plan
- Linked to wider economic package

Greece
- Govt plan to part fund FTTH to 2m households

Singapore
- NGNBN
- NetCo & OpCo tenders
- NetCo contract awarded

Australia
- NBN tender with A$4.7bn funding
- Govt company to deploy FTTH to 90% of homes

New Zealand
- Fibre network investment – 75% coverage
- NZ$1.5bn Govt investment

Model 2

The Australian Government launched its NBN tender in 2008

- Focused on FTTN solution

Govt committed to spend $4.7bn to facilitate roll out of new open access, high speed network

RFP published April 2008
6 bids received - Nov 08

Final report from Panel of experts passed to Minister, Jan 09

… Government policy announcement April 2009

Model 2

The RFP set out objectives and criteria against which bids would be considered

Six evaluation criteria

- Extent to which proposal meets Commonwealth's objectives
- Proponent capacity to roll out, maintain and upgrade NBN
- Nature / impact of any legislative or regulatory changes required
- Cost to the Commonwealth
- Acceptability of proposed contract terms
- Extent of compliance with RFP

18 objectives, including…

- Nationwide coverage
- Minimum speeds
- Enabling uniform retail prices
- Facilitating competition through open access
- Low access prices reflecting costs
- Affordable services
- Return on Commonwealth's investments
- …

Model 2

The Government received six bids

National bidders …

- Telstra [incumbent operator]
- Optus Network Investments
- Acacia
- Axia

State based proposals …

- Tasmania Government
- TransACT (Australian Capital Territory)

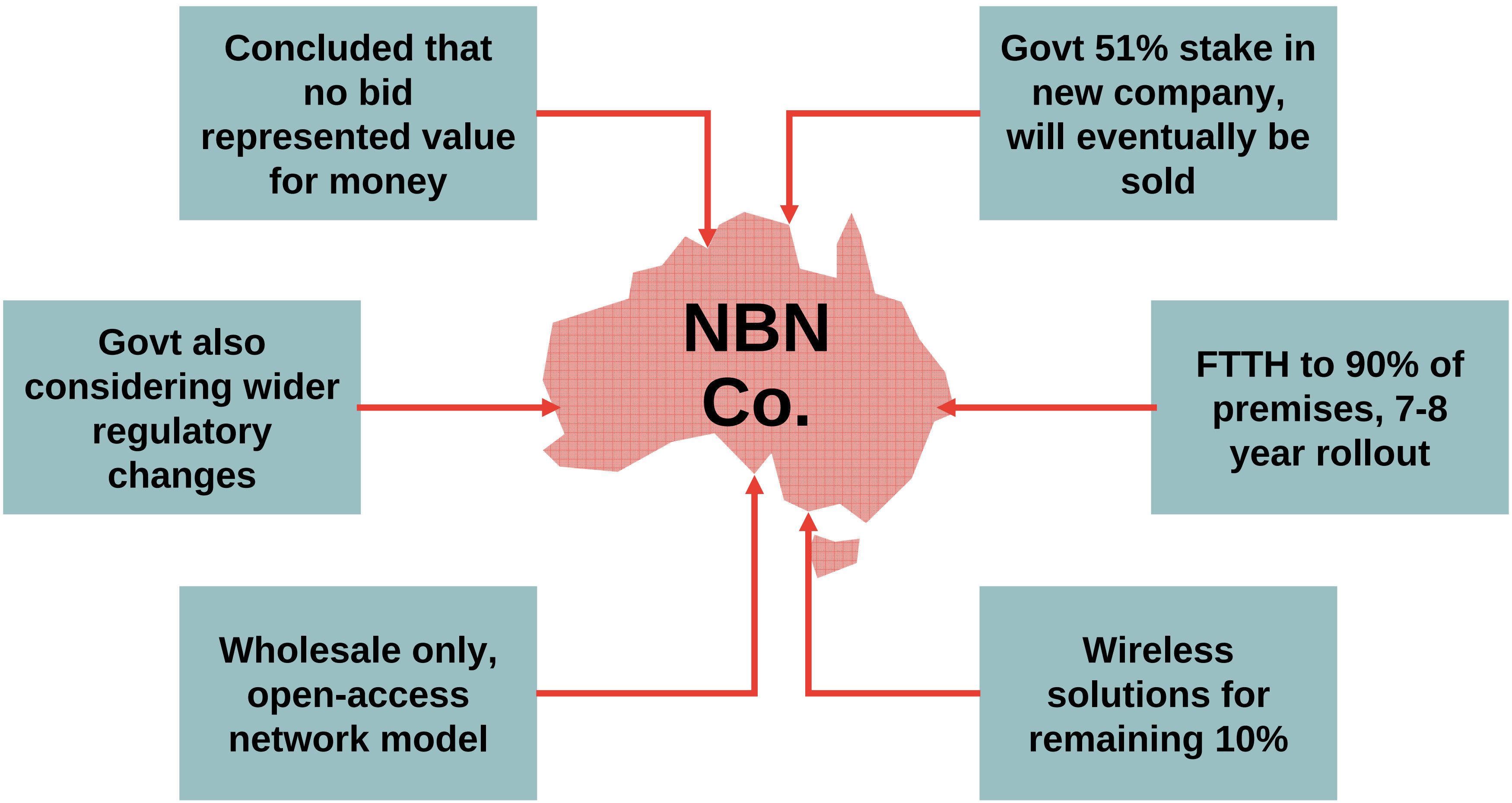
Bid contents included:

- Technical proposals, financial and business plans, indicative (wholesale prices), other regulatory and legal requirements
- Key issue: Access to Telstra sub-loop

Panel of Experts reviewed the proposals to determine the extent to which they met the Evaluation Criteria

Model 2

Government has now announced plans to rollout FTTH through a new company



- Why is NGA different?
- Two models
- $\boxed{\text{Conclusion}}$

NGA business models are still maturing and regulation is adapting to new challenges

- Approach likely to depend on the prevailing business model and extent of existing infrastructure competition

NGA as a natural monopoly
↓
Focus on developing single, pervasive infrastructure
↓
Access regulation to enable retail competition

Potential for infrastructure competition
↓
Likely to require passive access products or different technologies
↓
Regulation of active products only where market power exists

In many jurisdictions a hybrid approach may be necessary to ensure universality

Model 1

Free market investment with certainty over regulatory framework

Model 2

Public-private partnership for network build with access conditions attached

Model 3

Government intervention in high cost areas

Free market investment elsewhere with access to infrastructure or separate control of the infrastructure?

FRONTIER ECONOMICS EUROPE LTD.
BRUSSELS | COLOGNE | LONDON | MADRID

Frontier Economics Ltd, 71 High Holborn, London, WC1V 6DA
Tel. +44 (0)20 7031 7000 Fax. +44 (0)20 7031 7001 www.frontier-economics.com