Costs of fibre in the UK: getting beyond the £29bn headline

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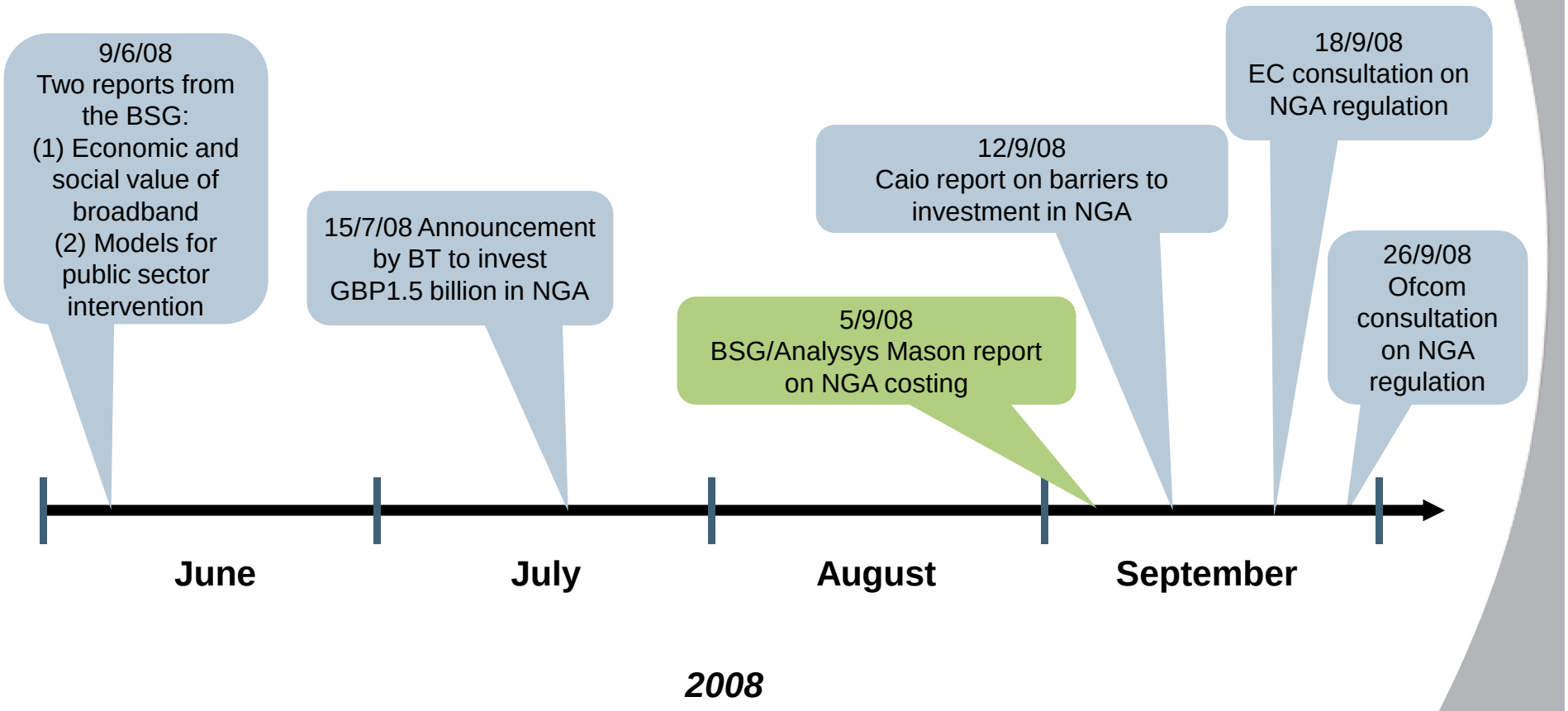
Our report has a prominent place in the current discussion on NGA in the UK …



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… and makes a key contribution

- We have provided detailed cost estimates and assumptions for a variety of scenarios for the deployment of fibre-based NGA in the UK
  - ***"we believe it is the most comprehensive published assessment of how much fibre deployment might cost in the UK" [Kip Meek]***
- We can move the discussion forward from the question of "how much?" to "how?"
- The report also acts as a 'myth-buster'

The BSG Executive has played an important role in helping to refine our model

- The BSG Executive and other industry players provided input and guidance on methodology and assumptions
- The process was iterative and constructive
  - three iterations were needed to reach closure

The report addresses the cost of an NGA roll-out in the UK

- We present the estimated costs of deploying different technologies and infrastructure:
  - FTTC/VDSL
  - FTTH/GPON
  - FTTH/PTP
- Starting with a base-case scenario, we have considered a wide number of sensitivities
- We also look at potential opex savings resulting from an NGA investment

What we have not covered

- Revenues
- Wireless technologies
- Self-build infrastructure (Norway-style)
- Some new installation techniques (e.g. micro-trenches)

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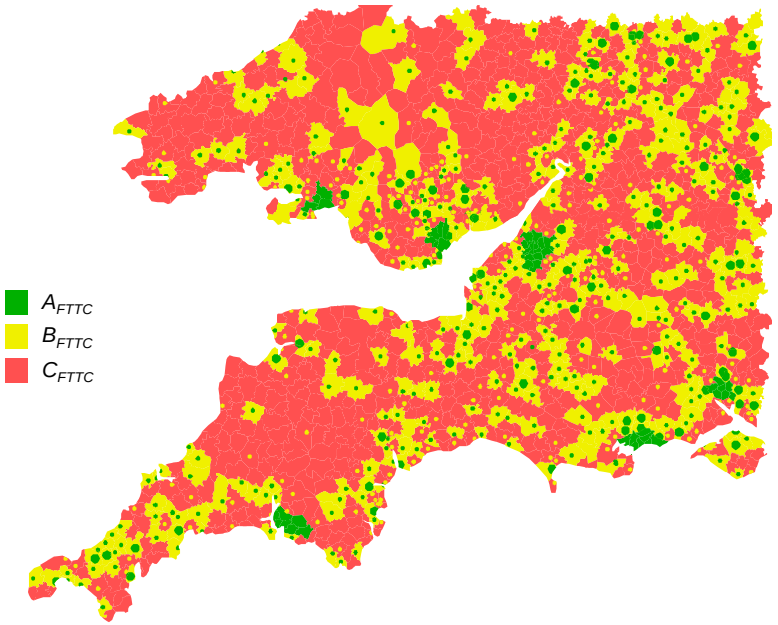
Geotypes are fundamental to our analysis

- Geotyping enables a more sophisticated analysis of areas with different characteristics
- We have used a combination of parameters to design our geotypes:
  - population density
  - city population
  - distance from exchange
  - exchange size
- Our approach captures “clustering”

Geotype clustering for the Southwest of England



Source: Analysys Mason for BSG

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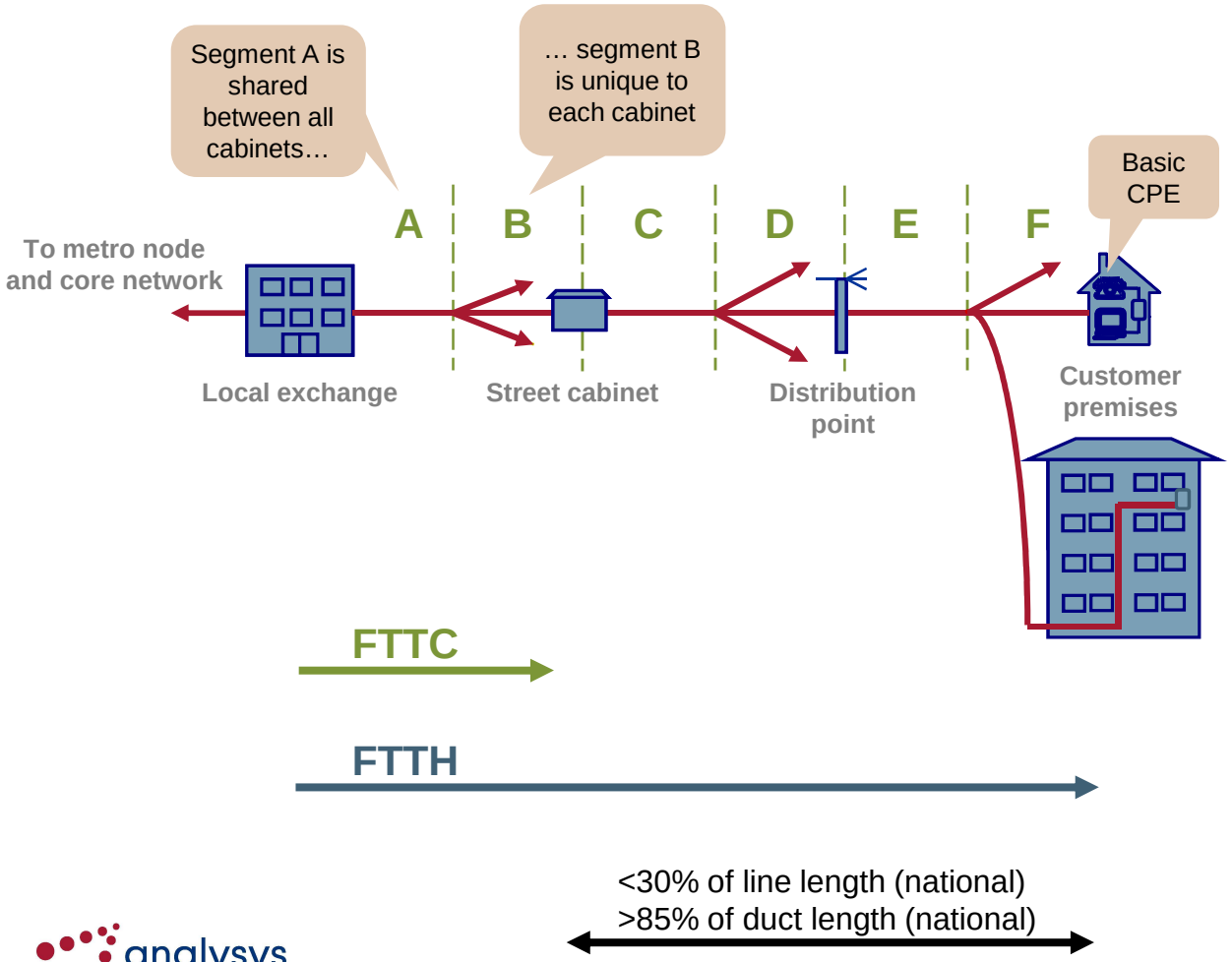
There are a number of issues when considering the different infrastructures



Key network parameters that vary by geotype

- Average line lengths
- Duct availability
- Number of exchanges/street cabinets/distribution points
- Distribution of building types
- Building sizes to determine in-building wiring
- Ratios between different duct segments
- Ducts/aerial deployment

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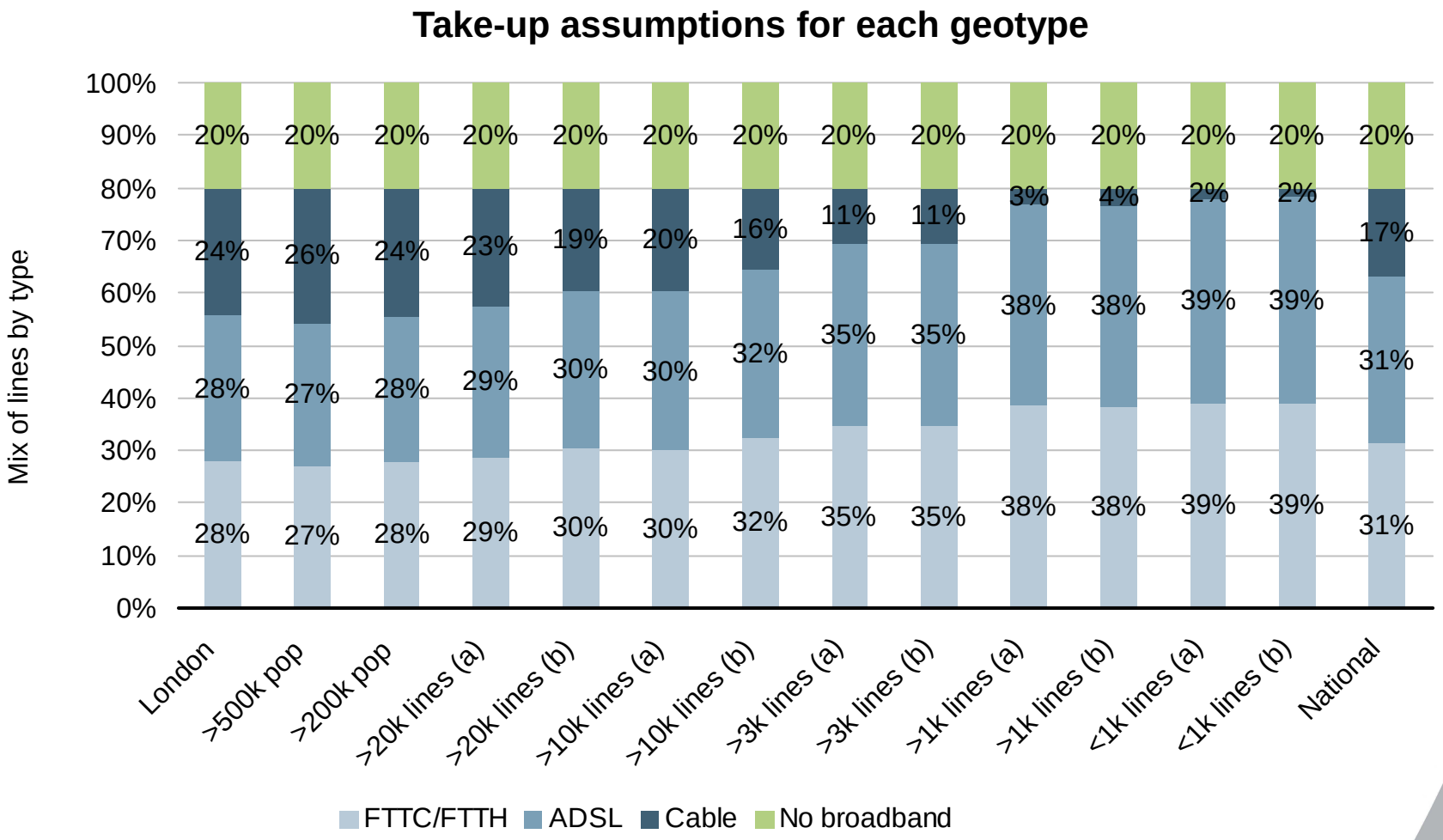
Overview of the base case

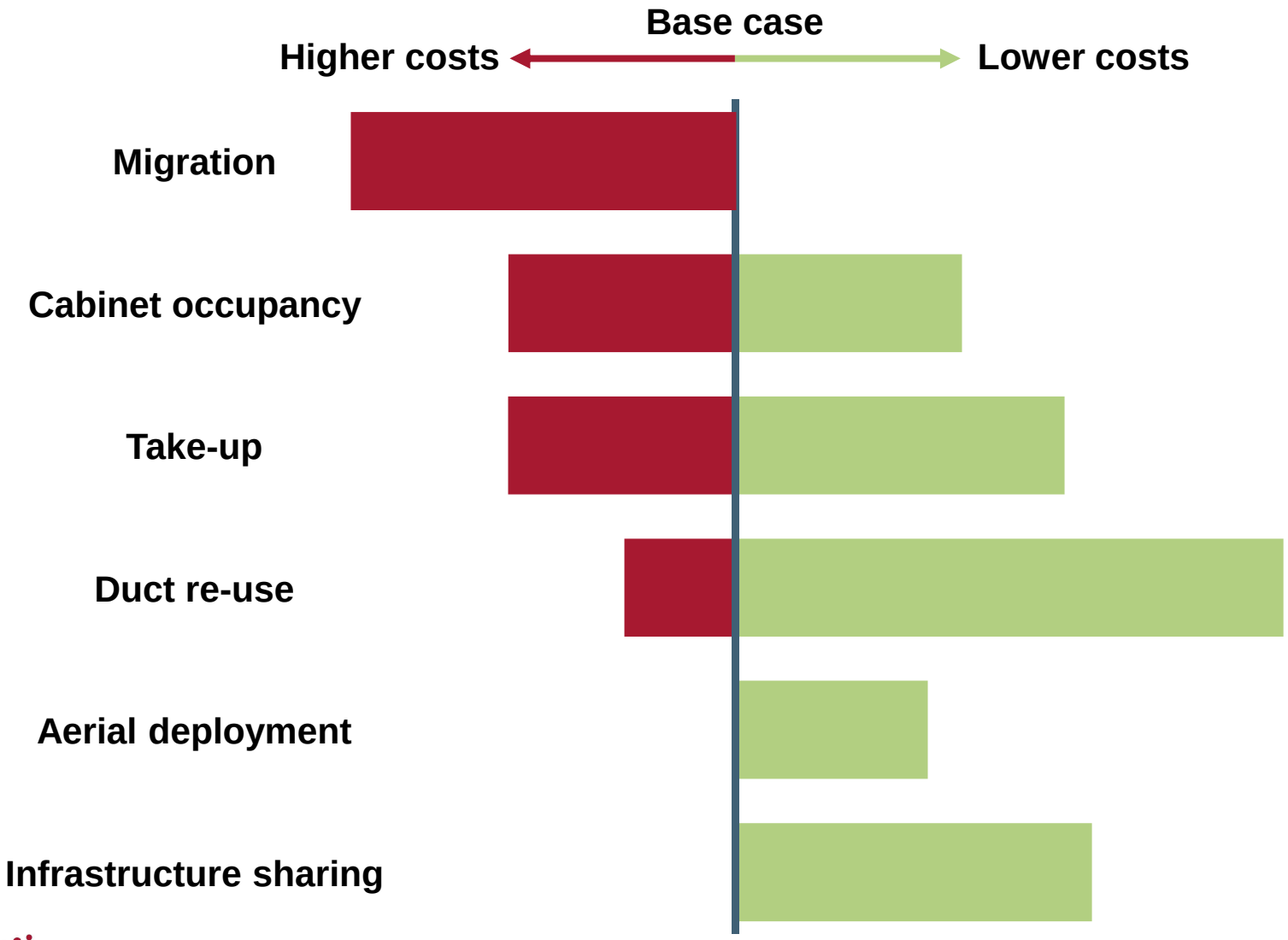
- **Migration:** only broadband customers
- **Cabinet occupancy:** FTTC/VDSL via single cabinet
- **Take-up:** 31% nationally
- **Duct re-use:** mid-range assumptions
- **Aerial deployment:** only existing poles
- **Infrastructure sharing:** only BT's infrastructure is used

The take-up assumptions vary by geotype due to different levels of cable coverage



Source: Analysys Mason for BSG

We also look at several sensitivities



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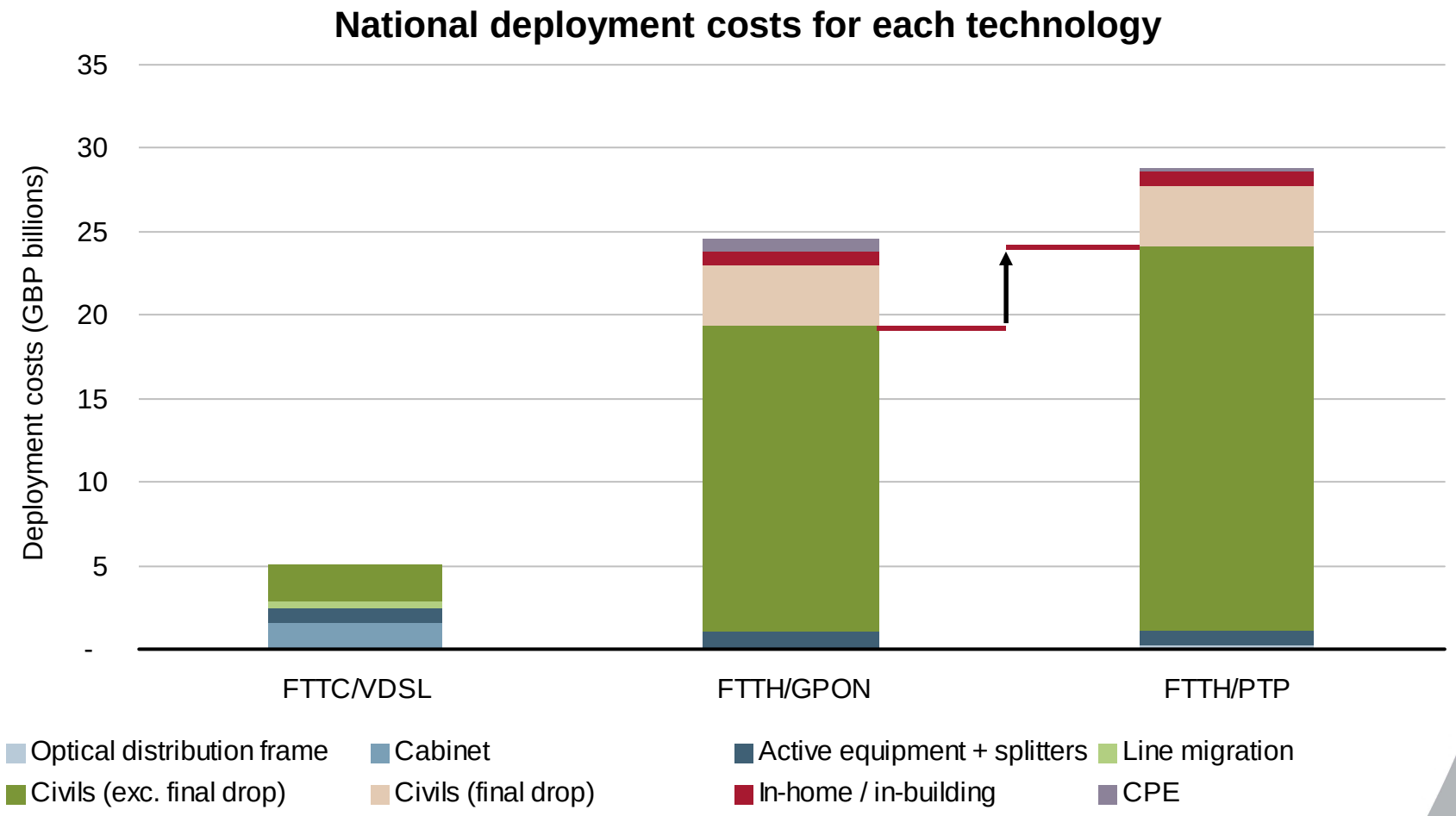
Deployment costs for FTTH are about five those for FTTC



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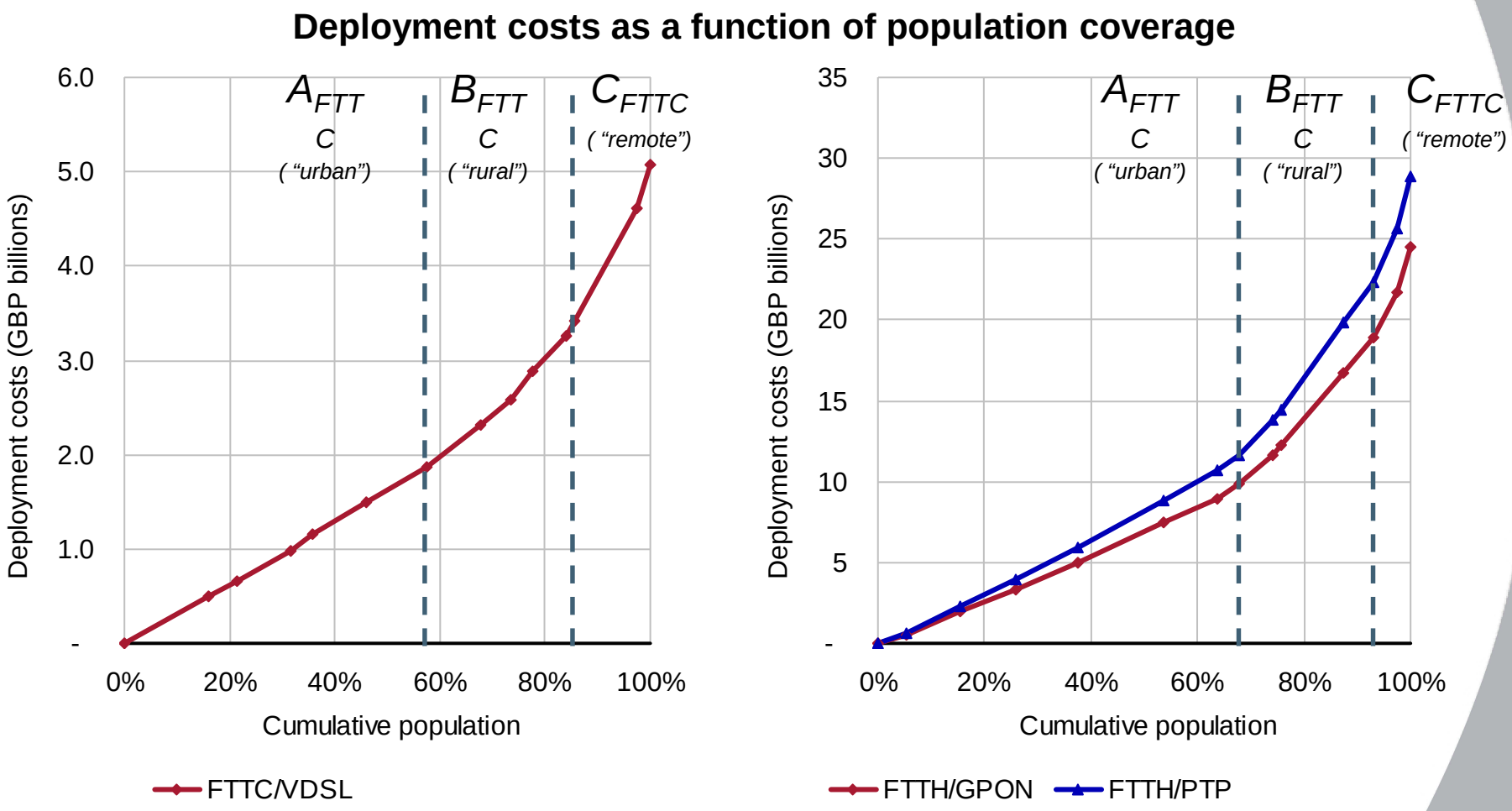
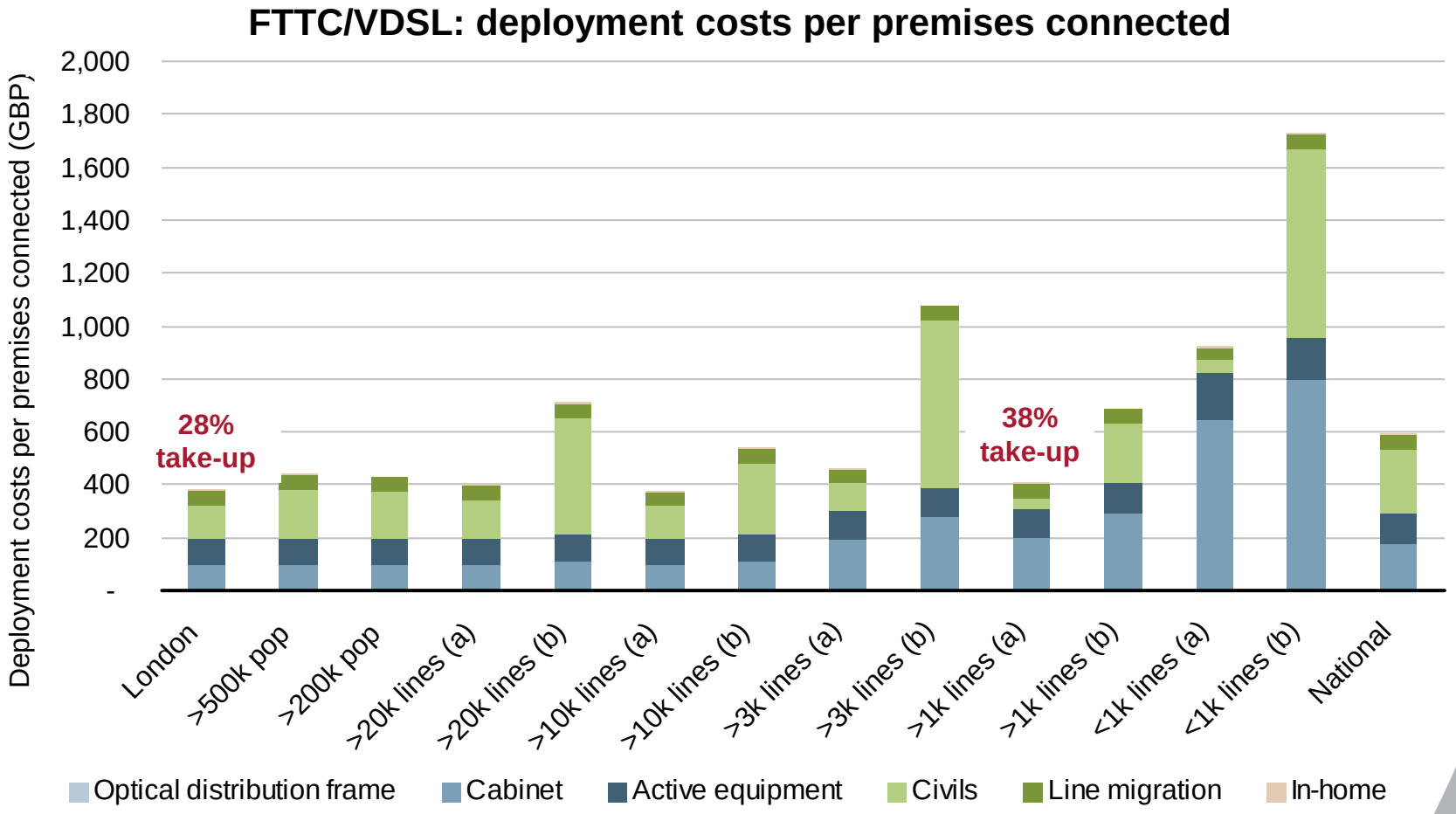
Deployment costs are significantly higher in rural and remote areas



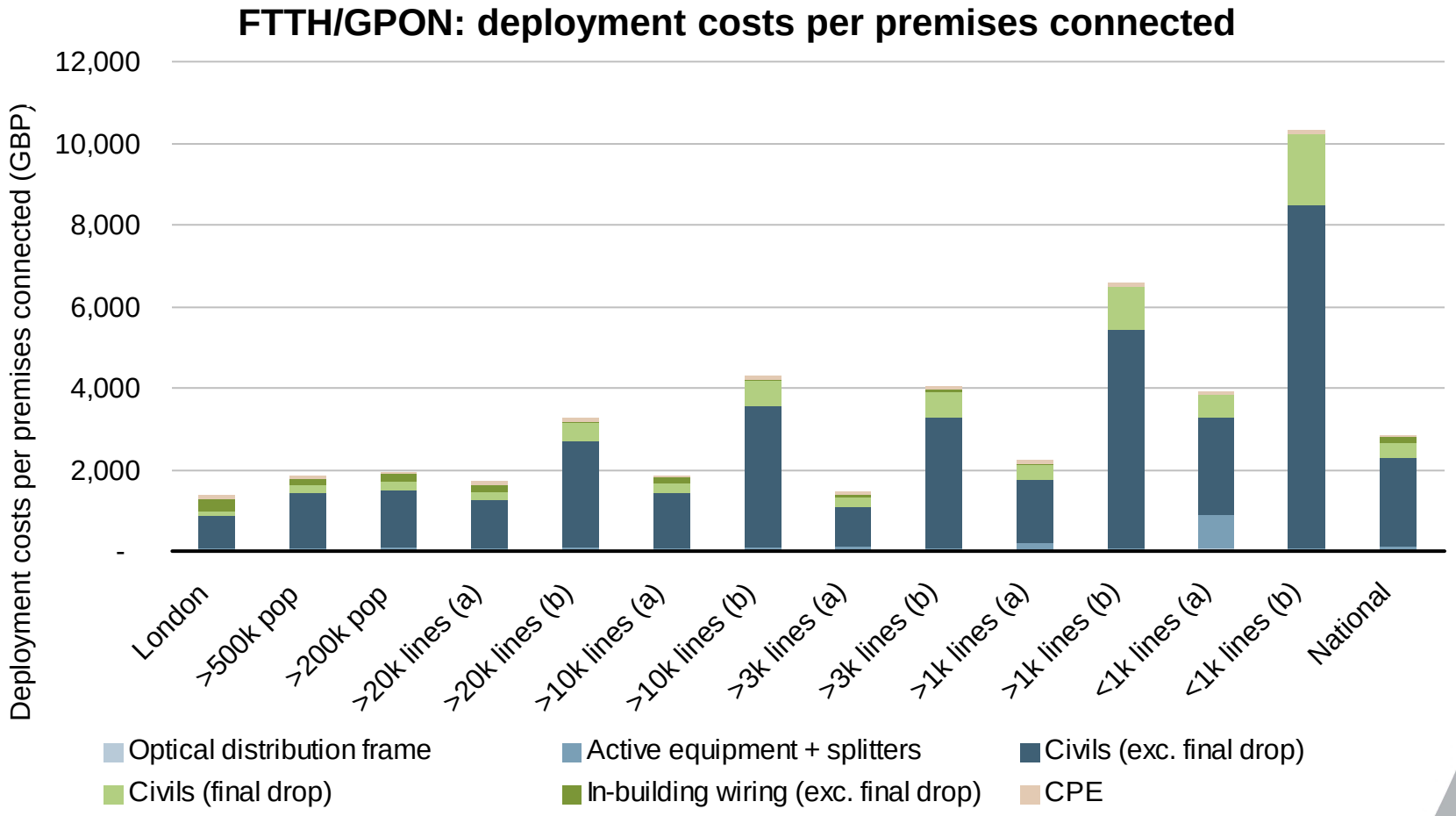
Source: Analysys Mason for BSG

The cost of connecting a premises varies significantly by geotype



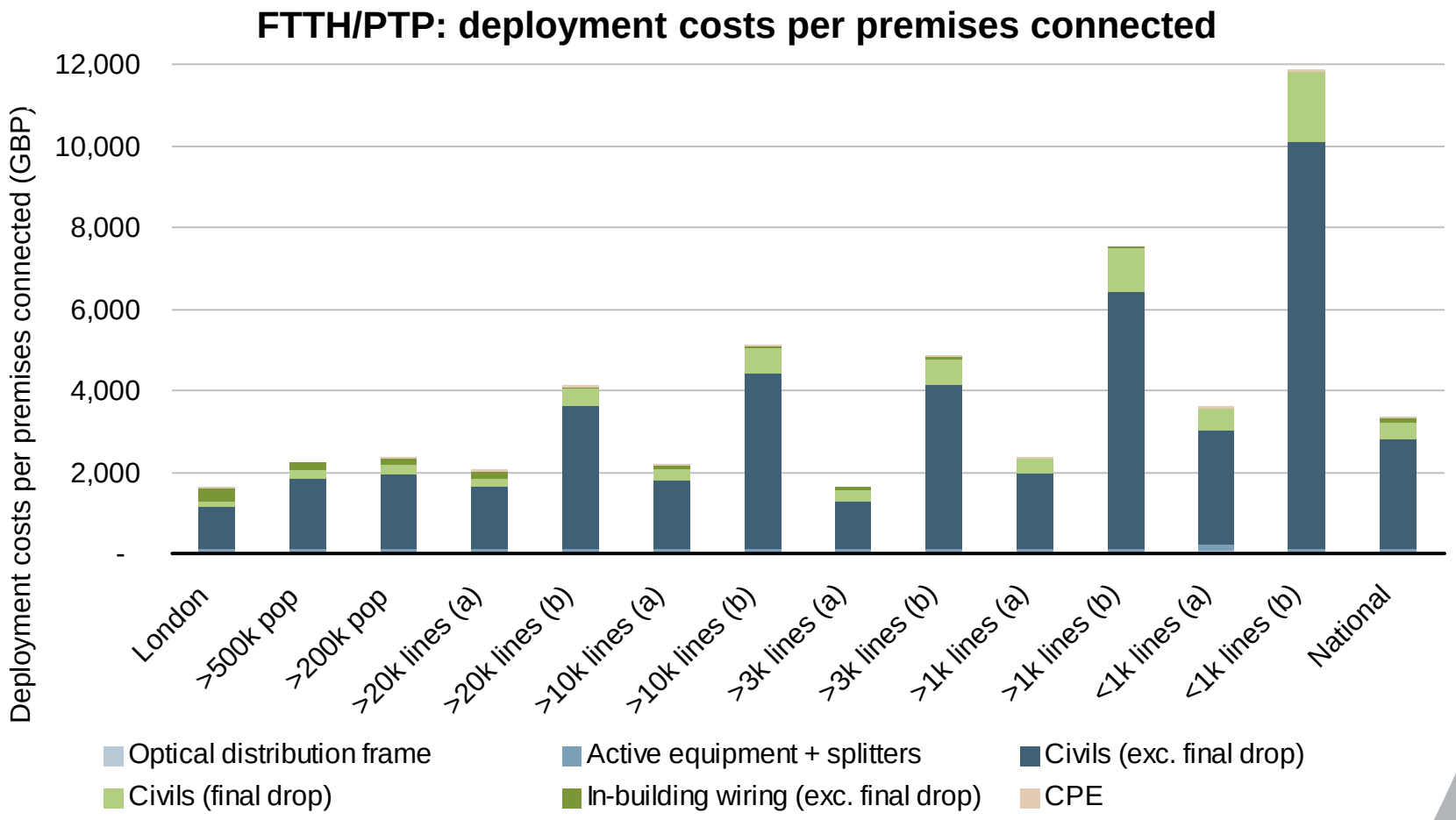
Source: Analysys Mason for BSG

Civil works play a more dominant role in FTTH/GPON deployment



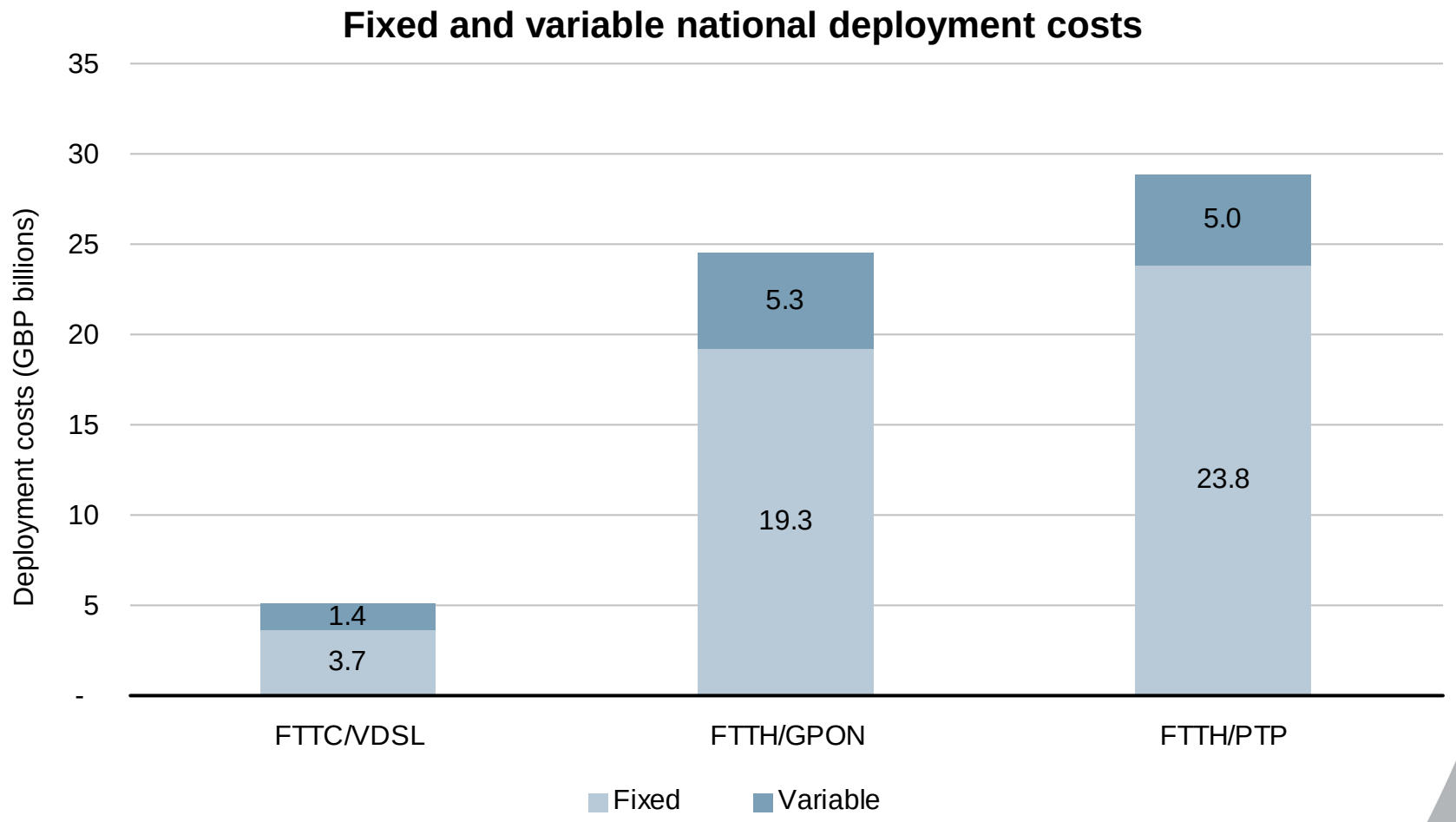
Source: Analysys Mason for BSG

Costs for FTTH/PTP are higher than for FTTH/GPON



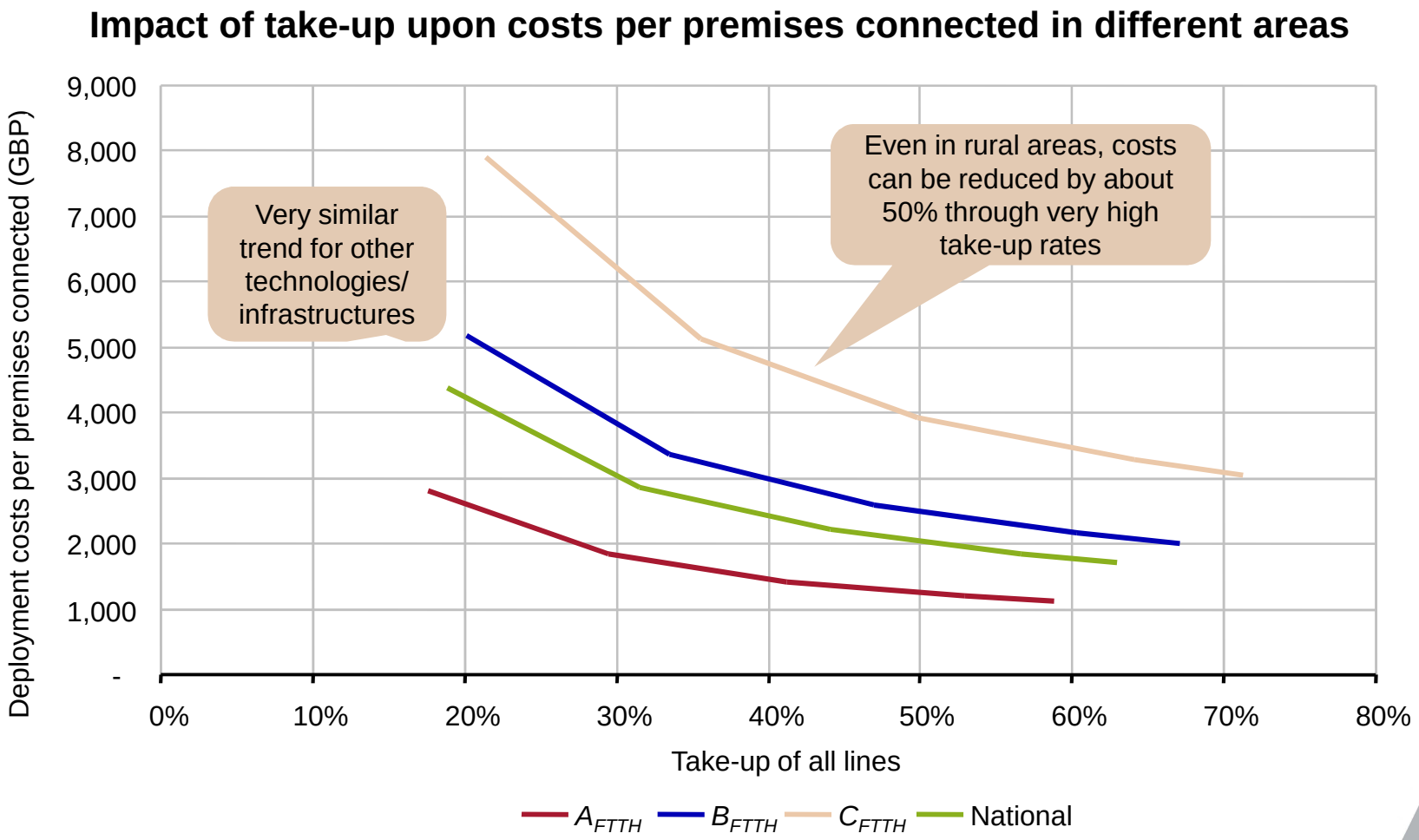
Source: Analysys Mason for BSG

Fixed costs far outweigh variable costs for all deployment types...



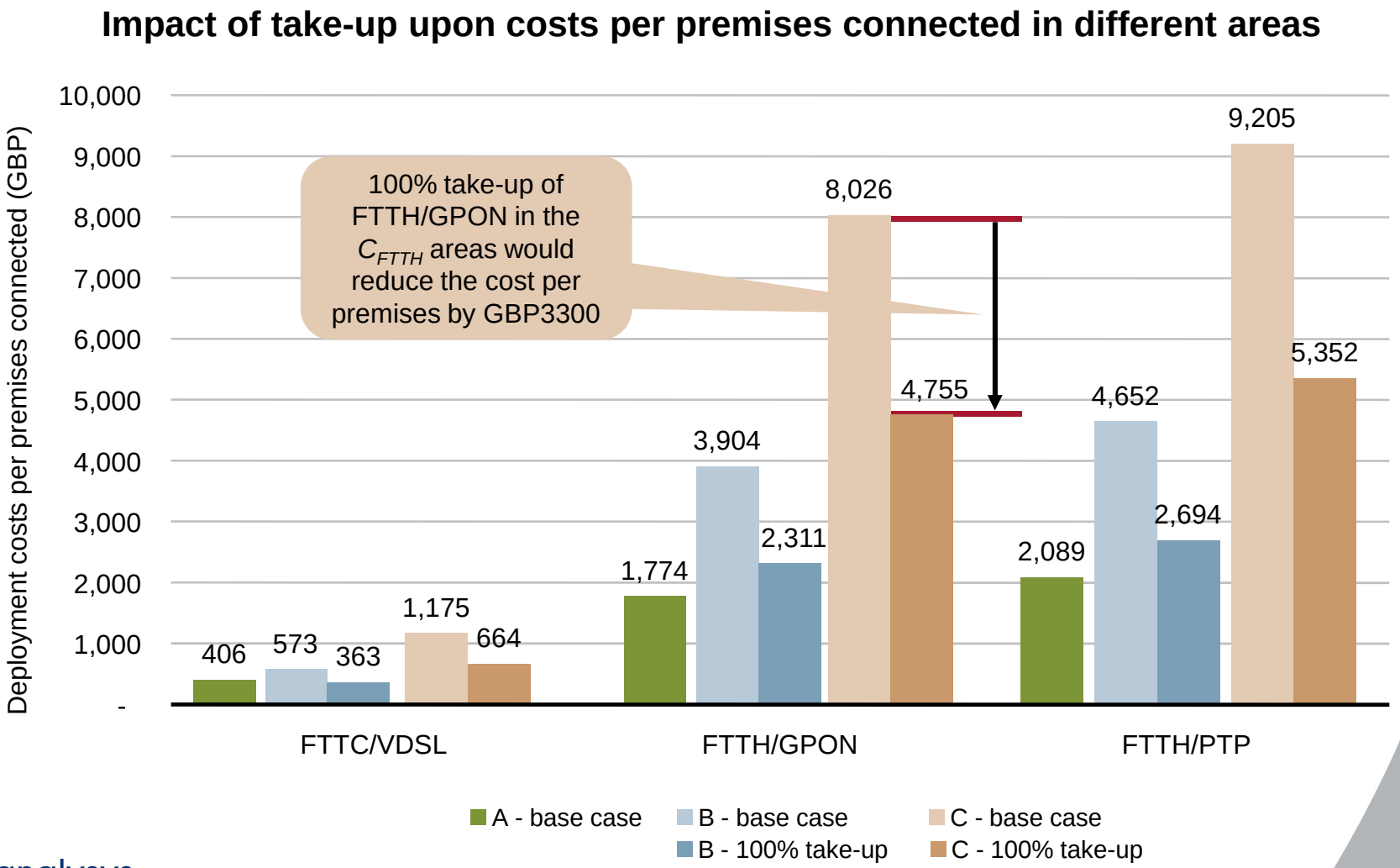
Source: Analysys Mason for BSG

... which means take-up is a critical aspect of the deployment cost



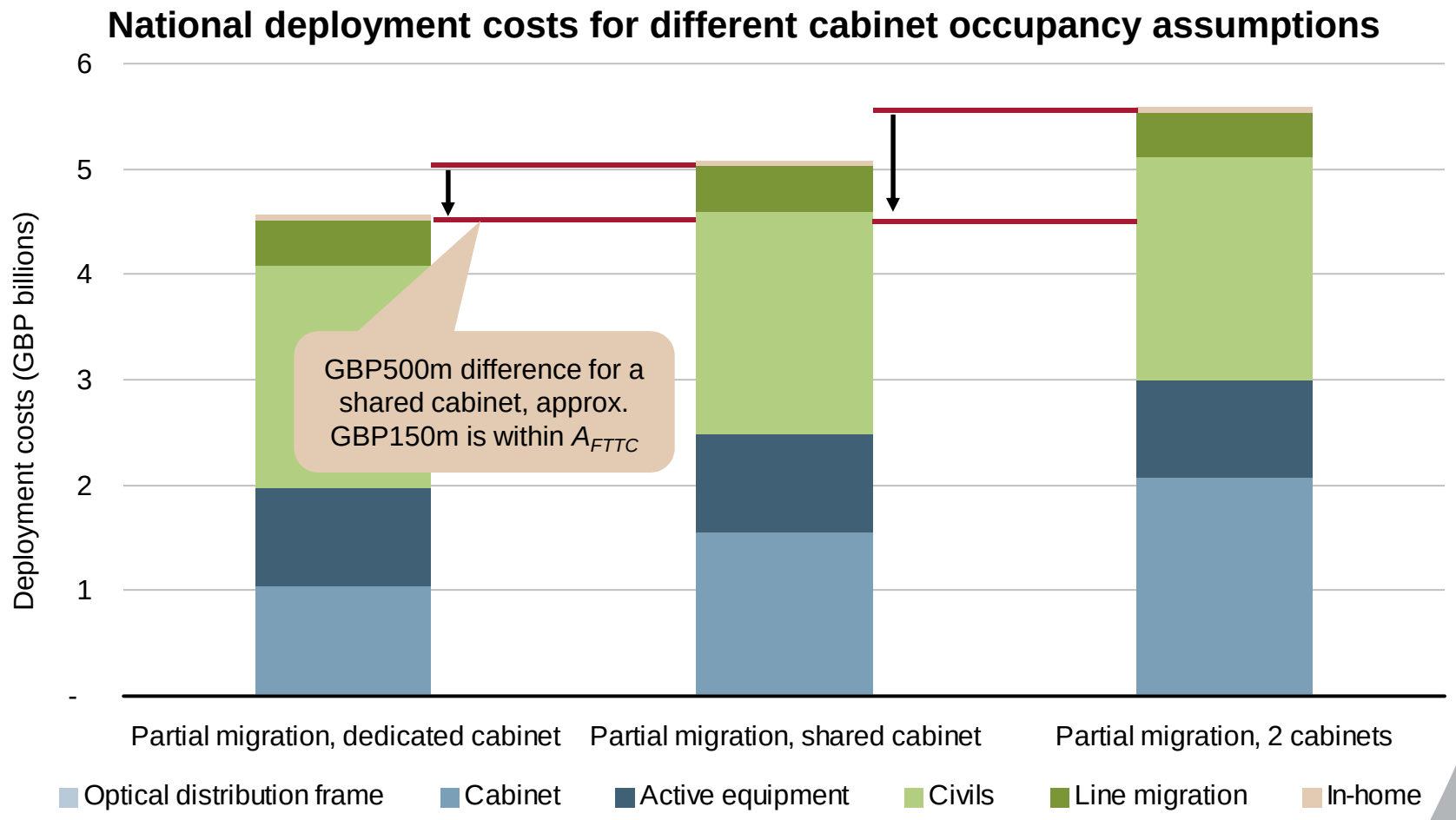
Source: Analysys Mason for BSG

High take-up in rural and remote areas can bring costs closer to those in urban areas



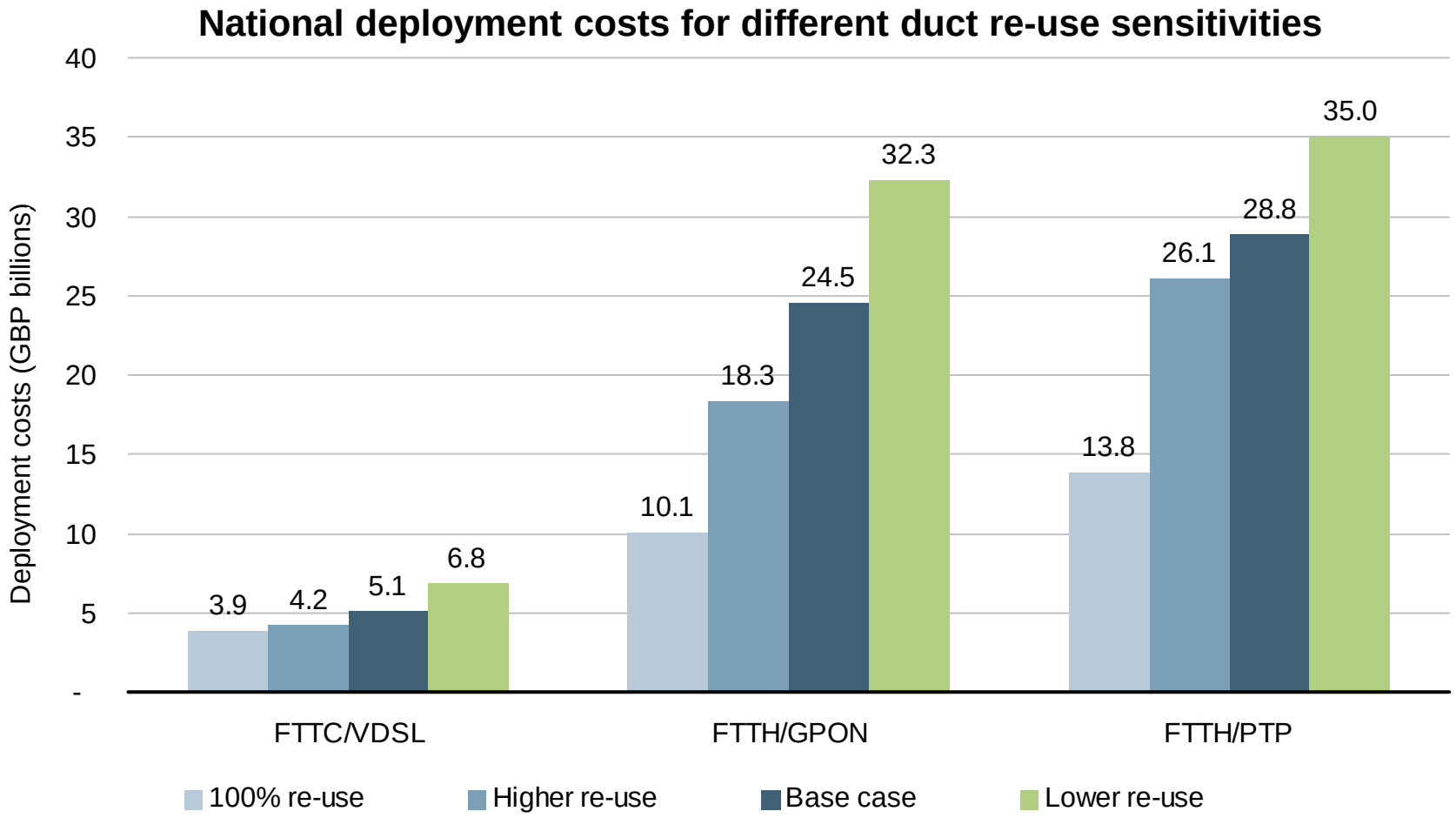
Source: Analysys Mason for BSG

The cost of competition nationally for FTTC/VDSL is GBP0.5-1.0 billion



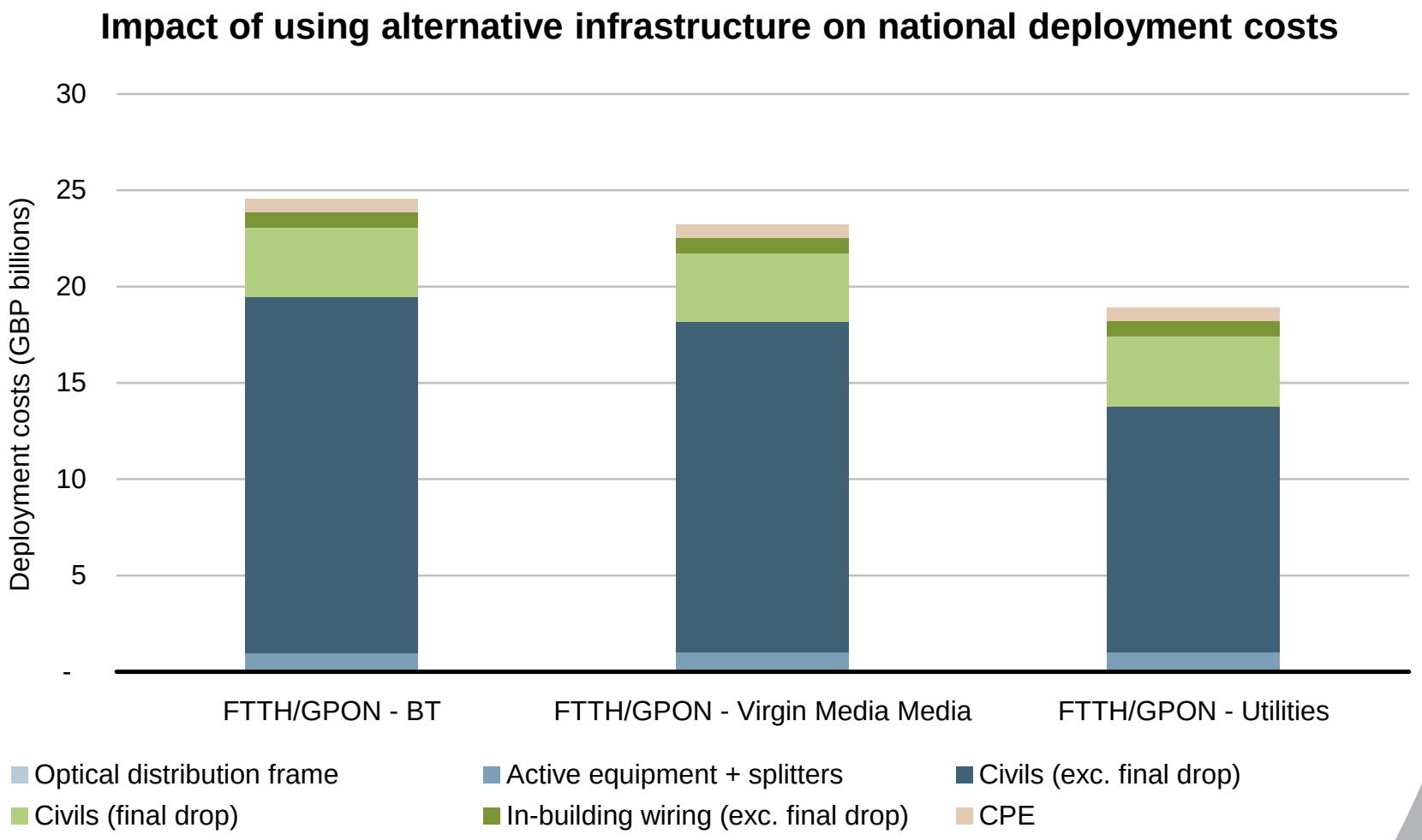
Source: Analysys Mason for BSG

Duct re-use would lead to major cost efficiencies



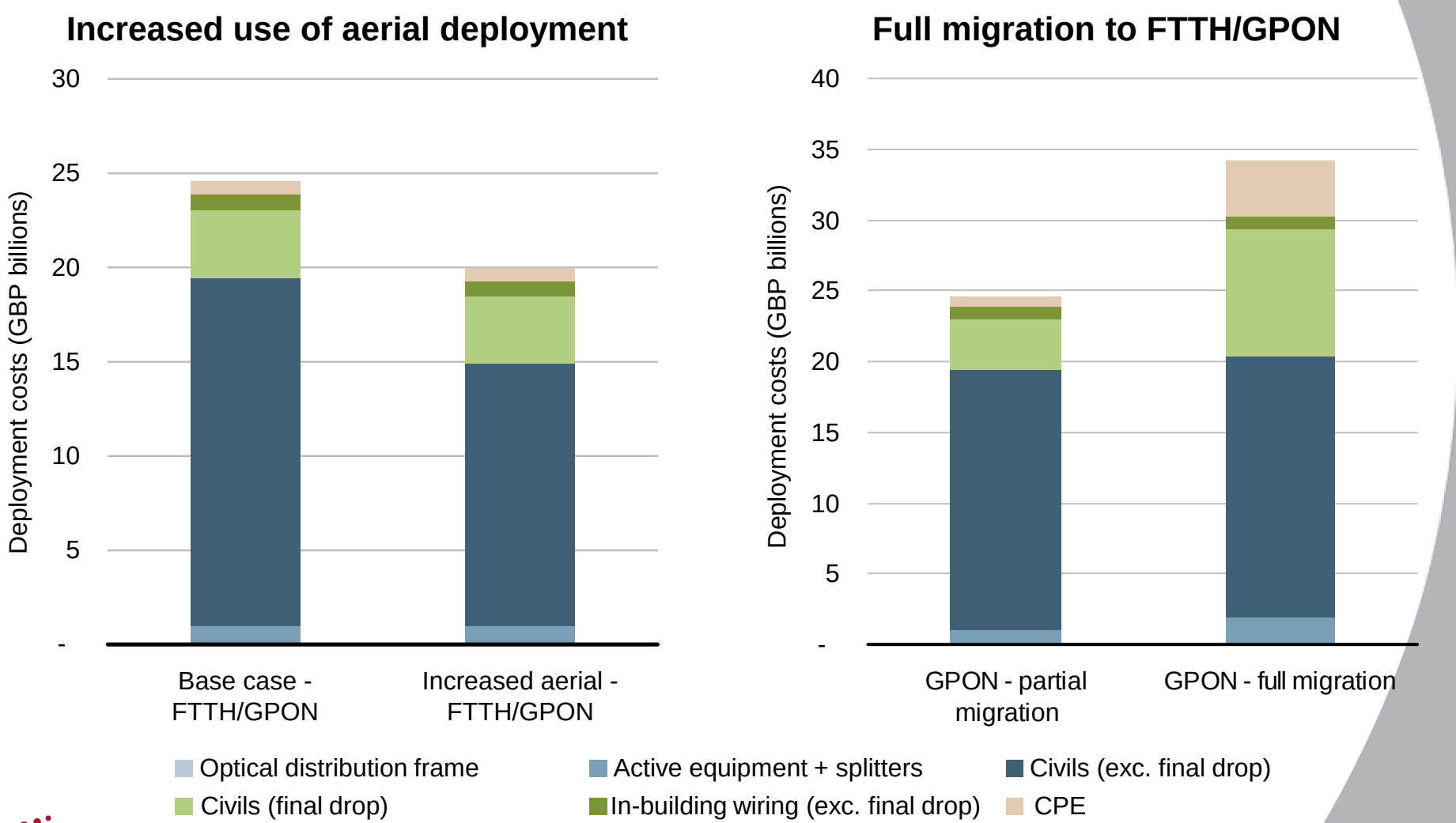
Source: Analysys Mason for BSG

Infrastructure sharing reduces the costs associated with civil works



Source: Analysys Mason for BSG

The extent of line migration and aerial deployment also influence deployment costs



Source: Analysys Mason for BSG

The model is consistent with other benchmarks, but comparisons can be difficult

- We have compared our findings with
  - BT, AT&T, Verizon, OnsNet (Netherlands), ARCEP (French regulator)
- Our costs are similar to, or lower than, these benchmarks
- Benchmarks need careful interpretation
  - take-up, geographical characteristics, reporting of costs per home passed and/or home connected ...

We expect some opex savings for FTTH in base case

- The main opex savings come from lower maintenance costs in the passive access network
  - there may be an increase in total opex until higher take-up is achieved
- Opex savings will amount to around GBP1.50 per line per month (~30%) for FTTH
  - power costs are only a small part of opex
- Long-run opex savings for FTTH are material but are not sufficient to justify infrastructure investment

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Closing remarks

- Access to alternative infrastructure (duct sharing) can significantly reduce deployment costs (e.g. ~GBP5-6 billion for FTTH/GPON)
- Demand stimulation and aggregation could drive take-up and reduce costs
- There will be opex savings with FTTH but they are unlikely to influence the business case significantly
- The cost of competition for FTTC/VDSL is GBP0.5-1.0 billion on a national basis

Thank you

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