

Presentation of draft report findings

# A technical and economic analysis for an FTTH infrastructure in Malta and Gozo

29 November 2011 • Pat Kidney & Matt Yardley

# A national FTTH network is a key part of Government's objectives

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- Delivering a next generation infrastructure is one of the seven pillars of Malta's Smart Island Strategy
- The Maltese government's vision is move ahead of other countries and be the country of the future, where new technologies are realised to the fullest extent possible

*“The government's goal for broadband investment is to accelerate the roll-out of ultra-fast broadband to cover all areas of Malta and Gozo, concentrating, where possible, on priority broadband users such as businesses, schools and public services, and reaching all residential areas in a phased approach through an FTTH network. Where fibre is limited in reach, the government will also consider alternative technologies. The project will seek to attract private-sector investment, and be directed to open-access infrastructure.”*

# Meeting the governments objectives will also ensure that Malta will meet the DAE targets

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- EC's Digital Agenda for Europe targets
  - Broadband access for all by 2013
  - At least 30Mbit/s connections for all by 2020
  - At least 50% of households to use services of at least 100Mbit/s by 2020
  
- Neelie Kroes (European Digital Agenda Commissioner) 3<sup>rd</sup> Oct 2011:
  - Pledged €7bn of EU funding for broadband infrastructure
  - Consultation on copper pricing and switch off

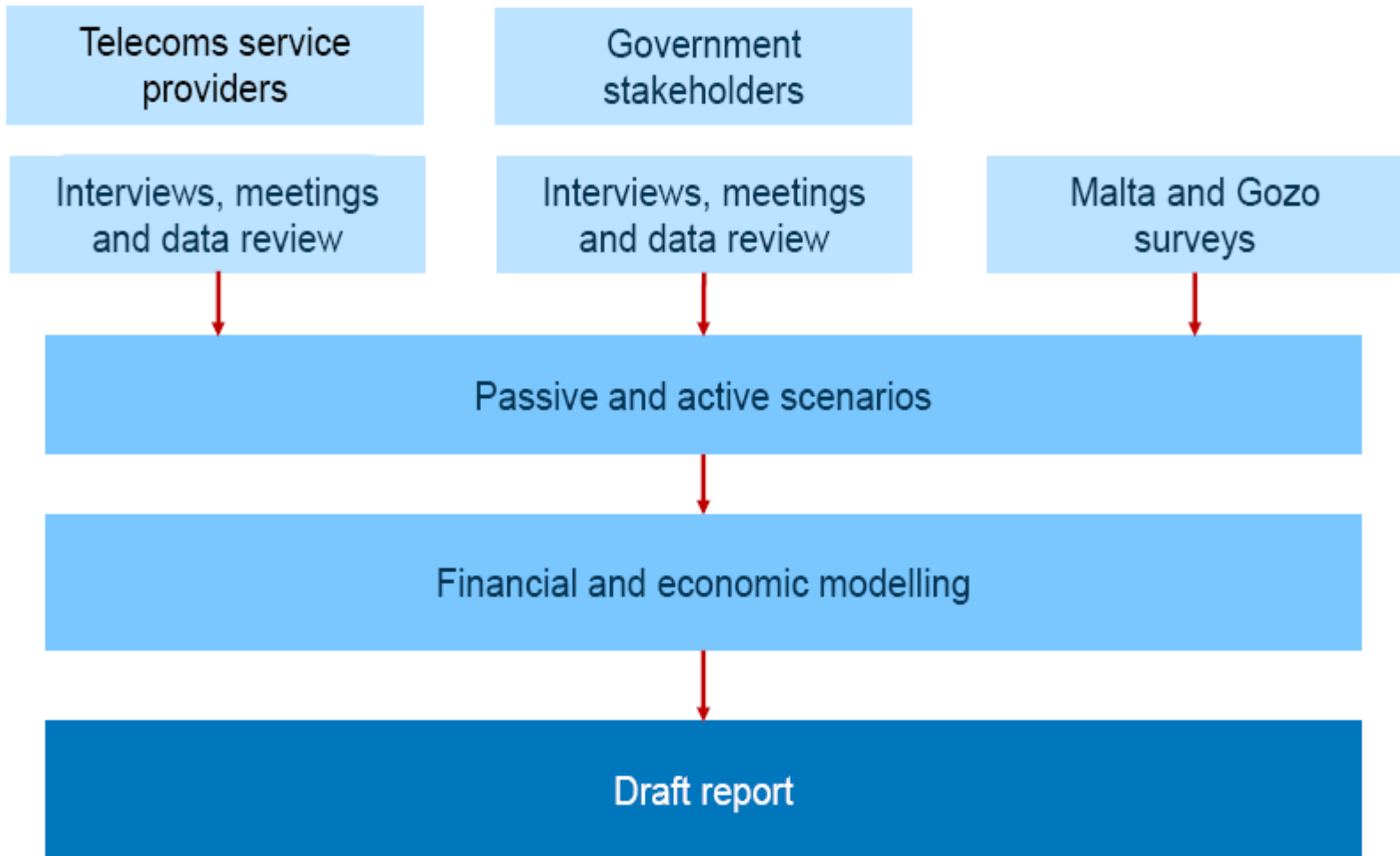
# Could regulation help?

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- The EC requires that regulation is considered ahead of Government intervention in broadband
- Wholesale cable access very limited in practice
  - Old: some in UK but was not taken up (effectively resale)
  - New: in France, but commercially negotiated; cable having relatively low market share a factor
- Difficult to see how regulation could ensure the Government's objectives will be met

# Recap of approach taken in the study

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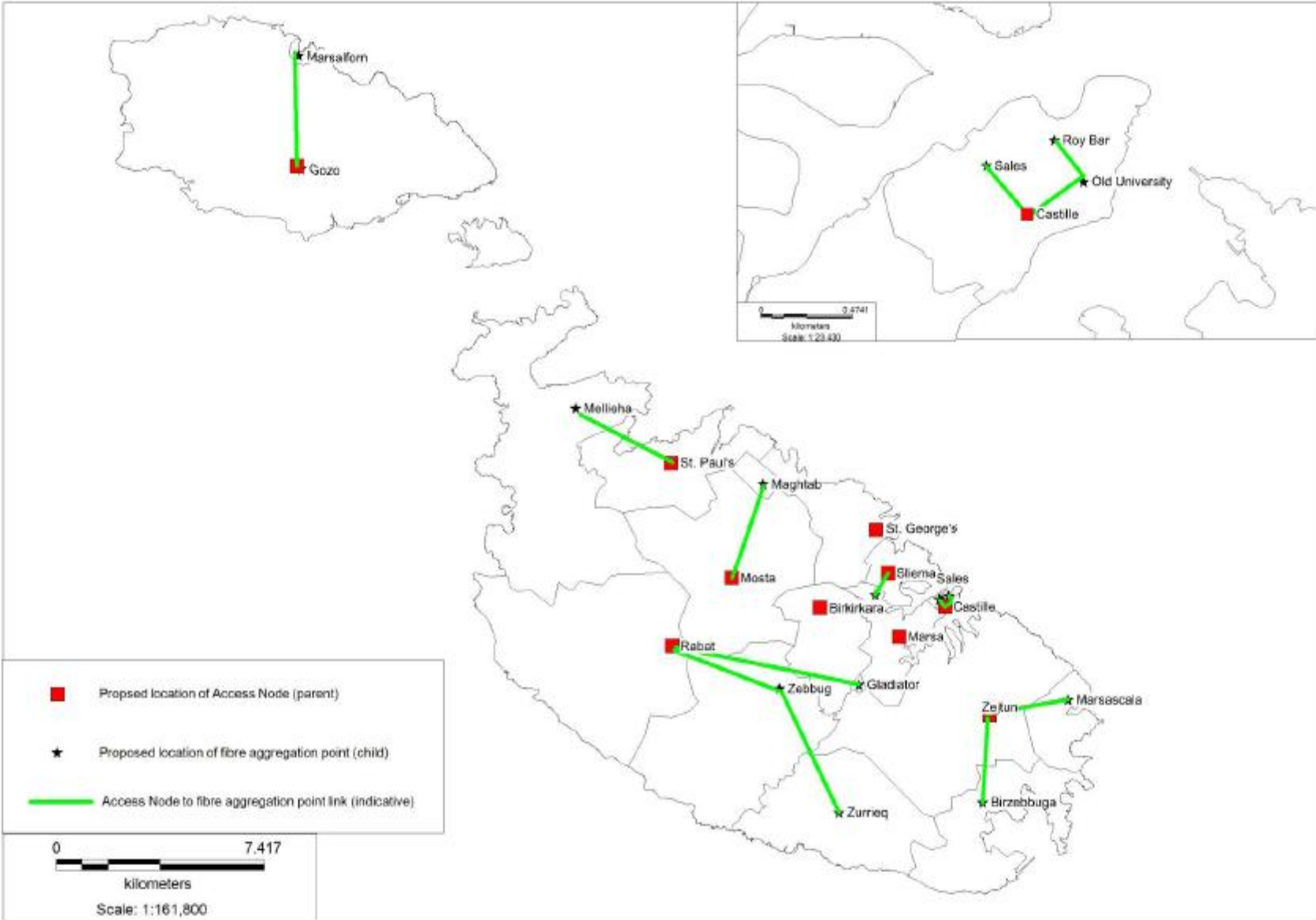


# Our recommendations for this study

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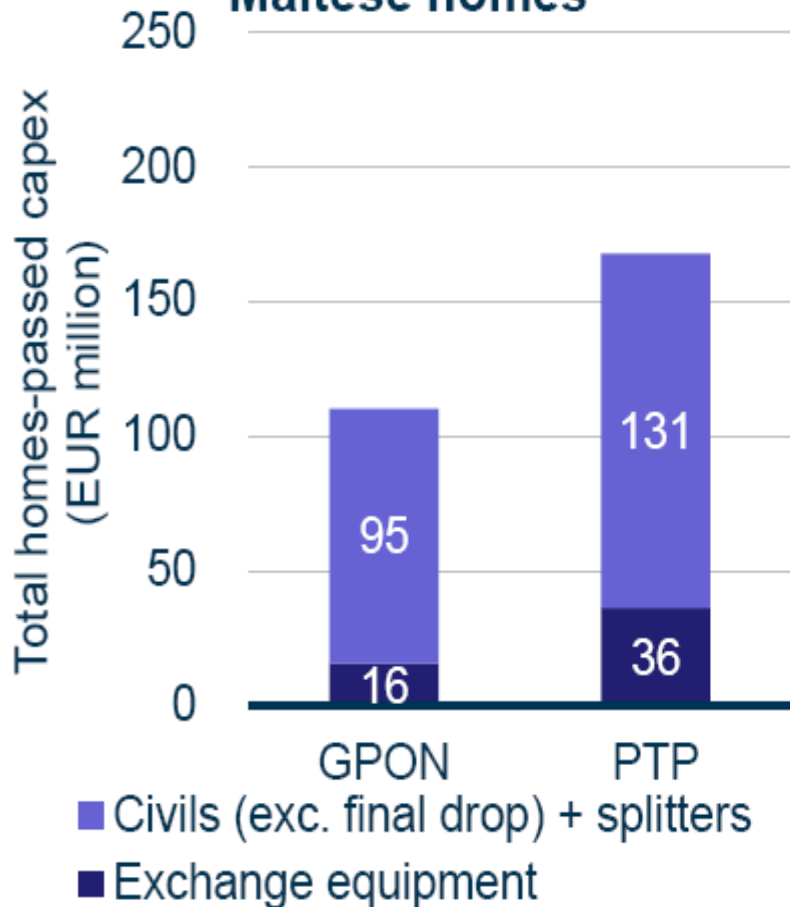
Issue	Recommendation
Unbundling layer	Layer 1 and Layer 2 to be considered in the feasibility
Technology	GPON and PTP to be considered in the feasibility (leaving decision to the market to select which) PTP has advantages but costs quite a bit more than GPON Even in a GPON implementation for residences, PTP is likely to be used for for business (hybrid approach).
Products	Full set of access and backhaul/aggregation products at Layer 1 and Layer 2

# Basis for modelling the FTTH economics (2)

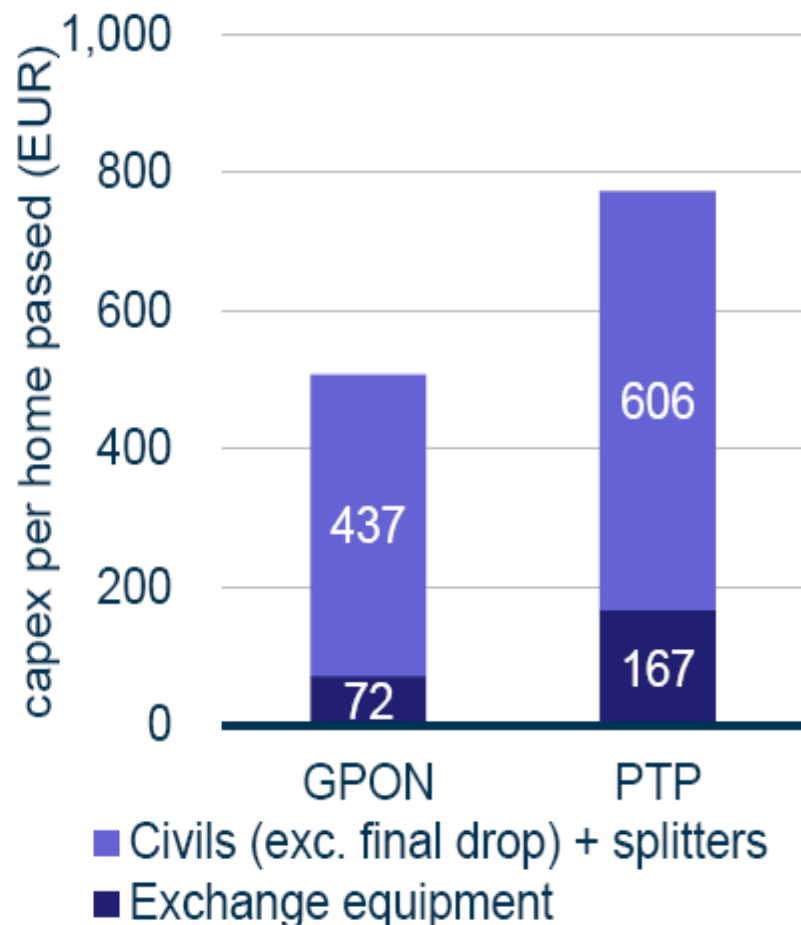


# It will cost EUR110m to EUR168m to build a network which passes each home...

## Total capex to pass near 100% of Maltese homes

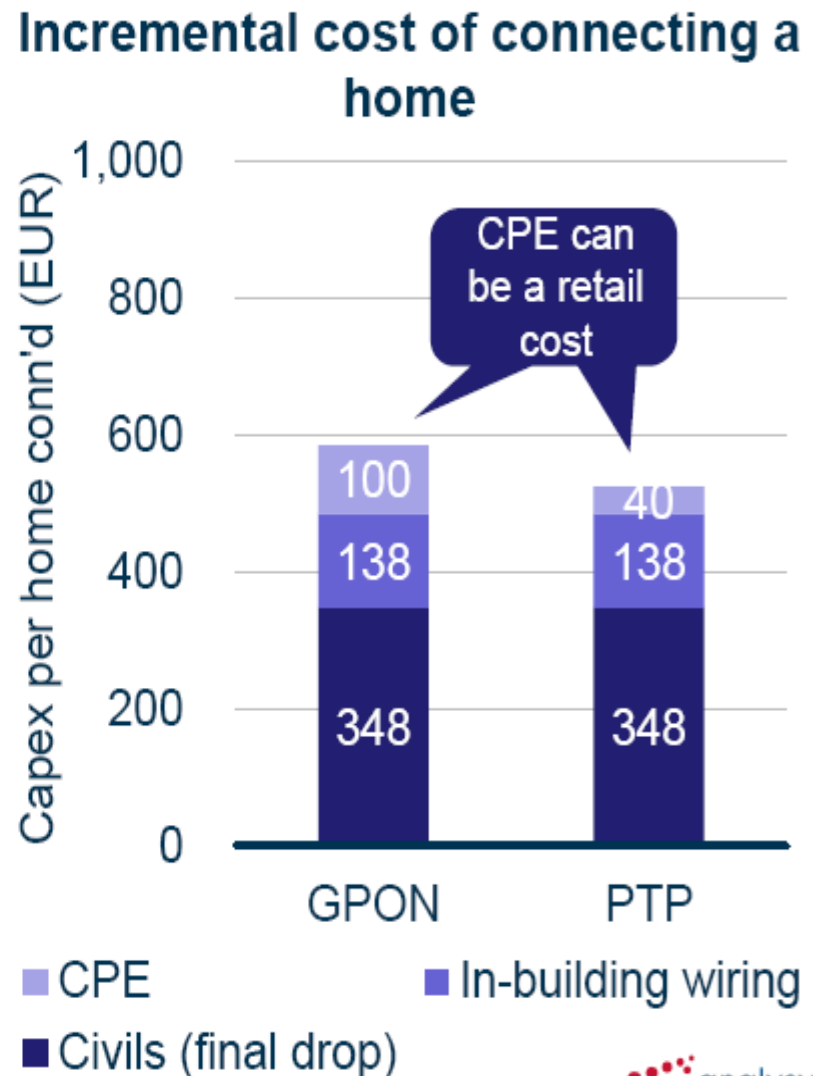
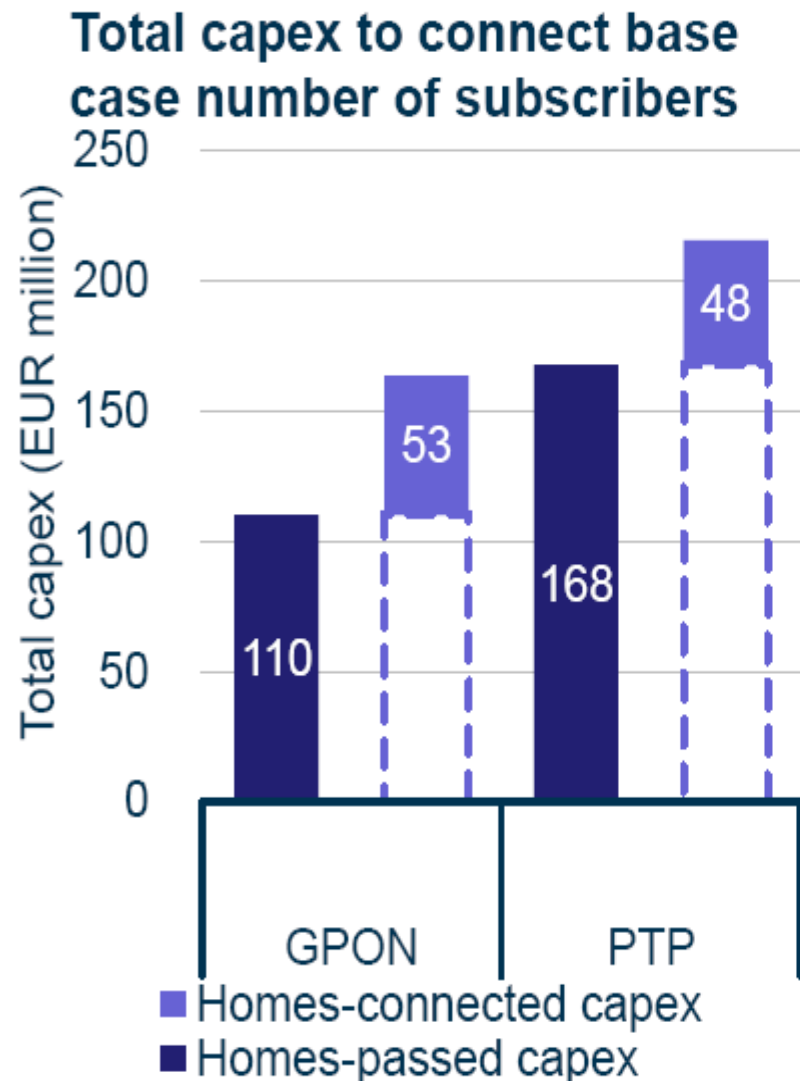


## Cost per home passed

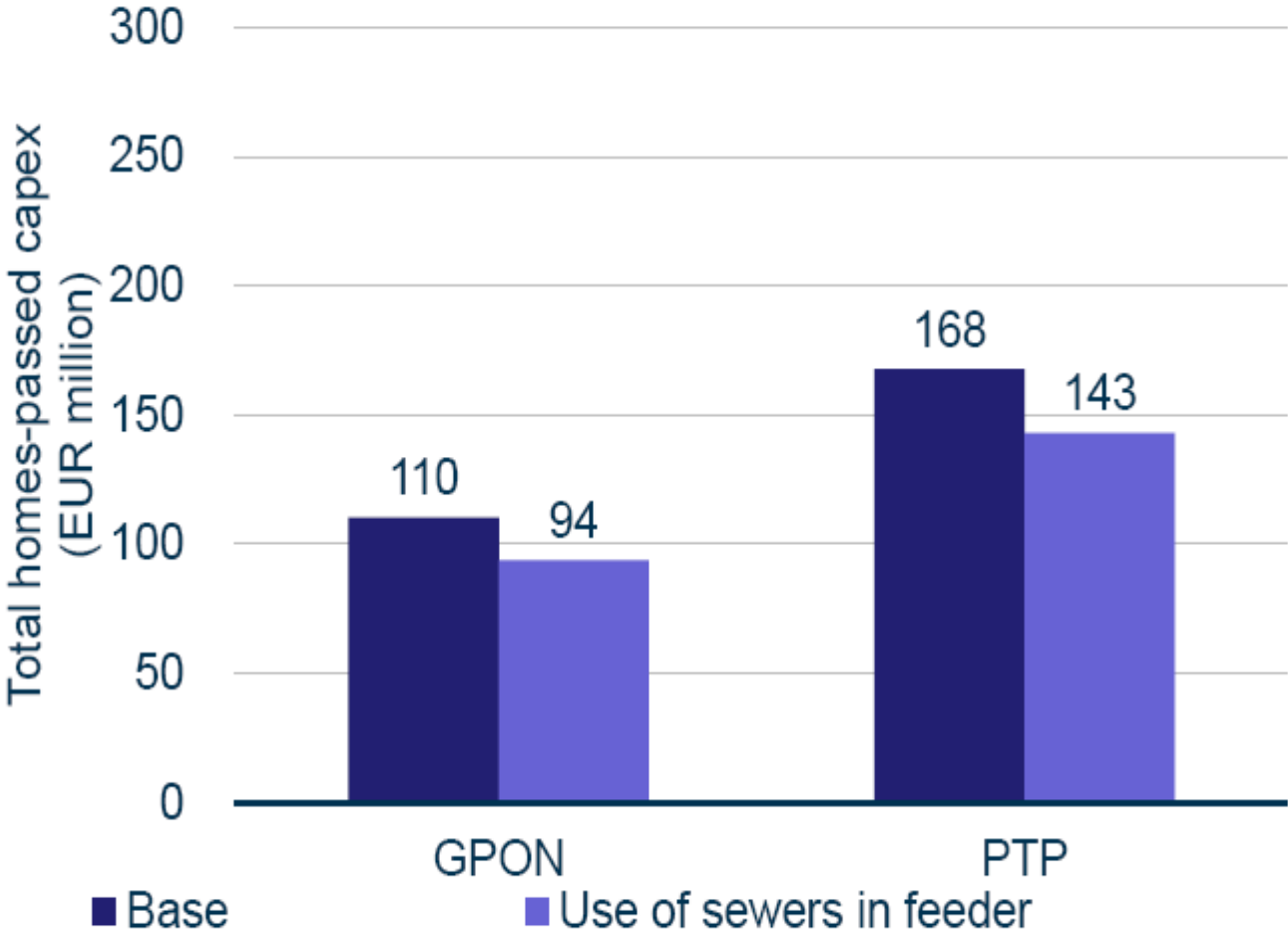




# ... and between EUR163m and EUR216m to pass and connect homes

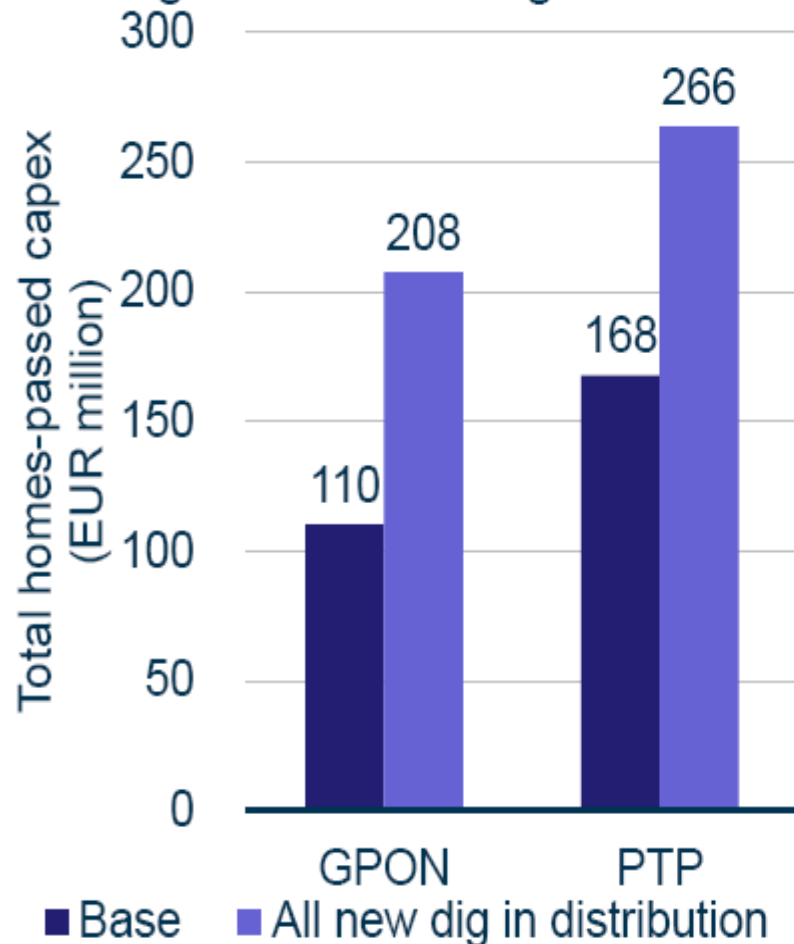


# Use of sewers provides modest savings



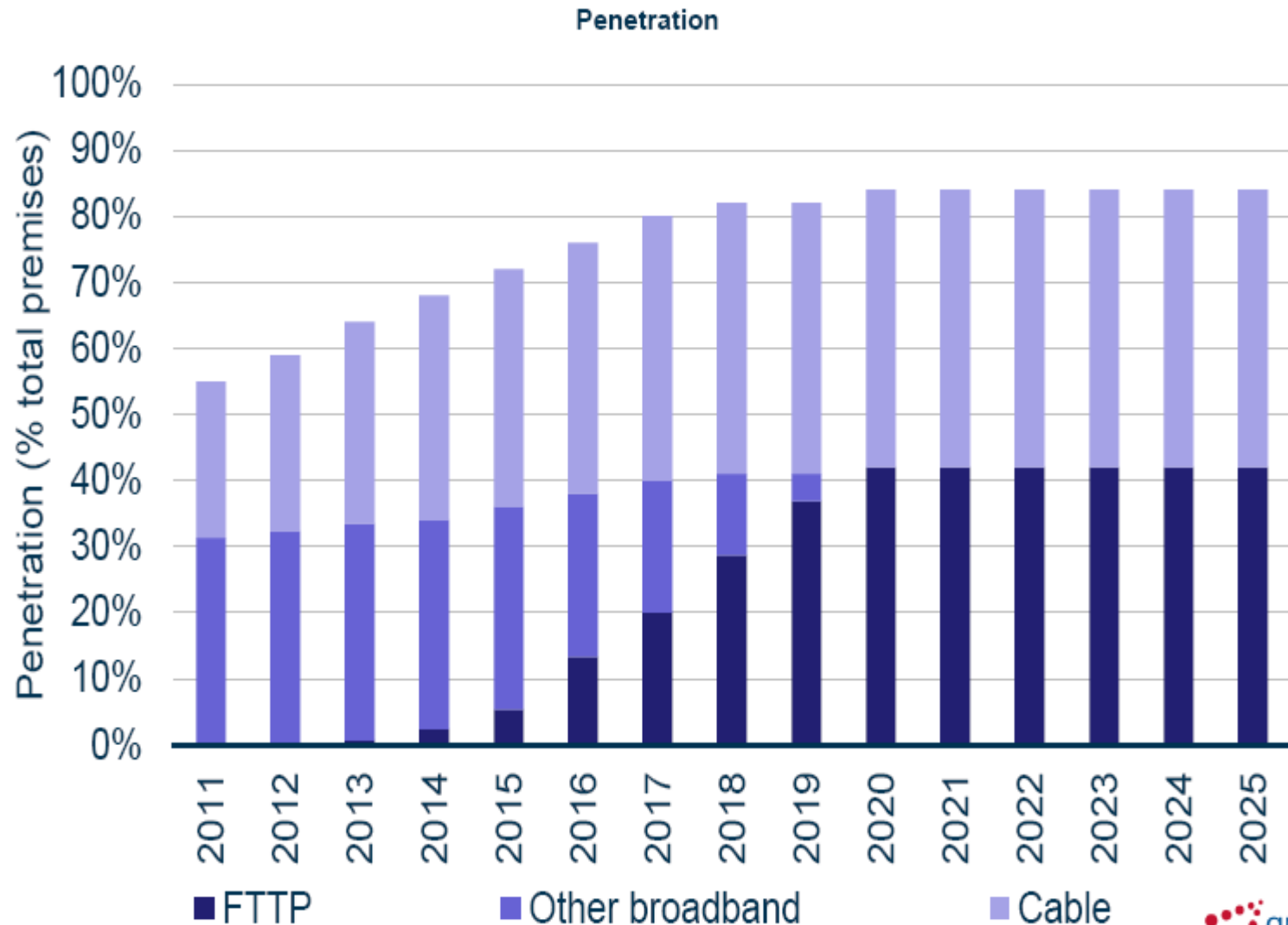
# Installing cable underground substantially increases costs

- Putting all cable underground



- Putting the distribution cabling underground impacts
  - Cost
  - Rollout Timeframe (adds two to three years)
- Almost EUR100m whilst existing copper, cable and electrical networks remain overhead
- Countries such as the UK now accept overhead as part of the FTTH solution
- High standards for overhead cable can be specified as part of process

# We assume cable and the new network would provide all connections in the long term



# Demand side assumptions (2)

## Wholesale Pricing

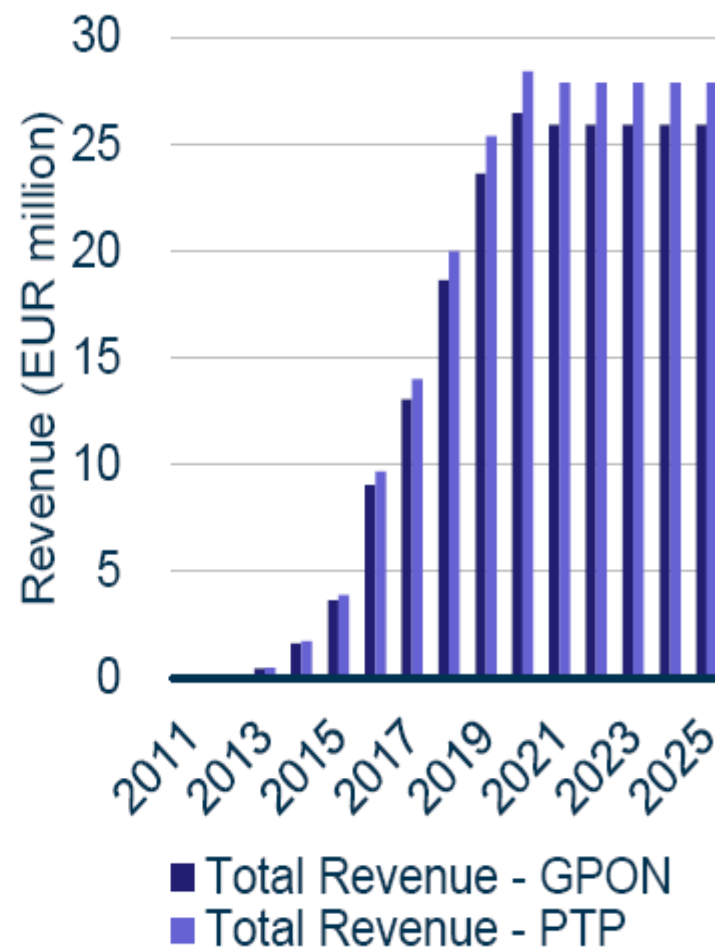
Product	Typical Product today (Mbit/s down/up)	Monthly ARPU* (EUR)
GPON-Low	30/10	22**
GPON-Medium	50/20	25
GPON-High	100/40	30
PtP-Low	30/30	25
PtP-Medium	50/50	30
PtP-High	100/100	45

\*ARPU is the Average Revenue Per User for broadband and other services such as TB

\*\*We assume a connection fee of EUR50 in all cases

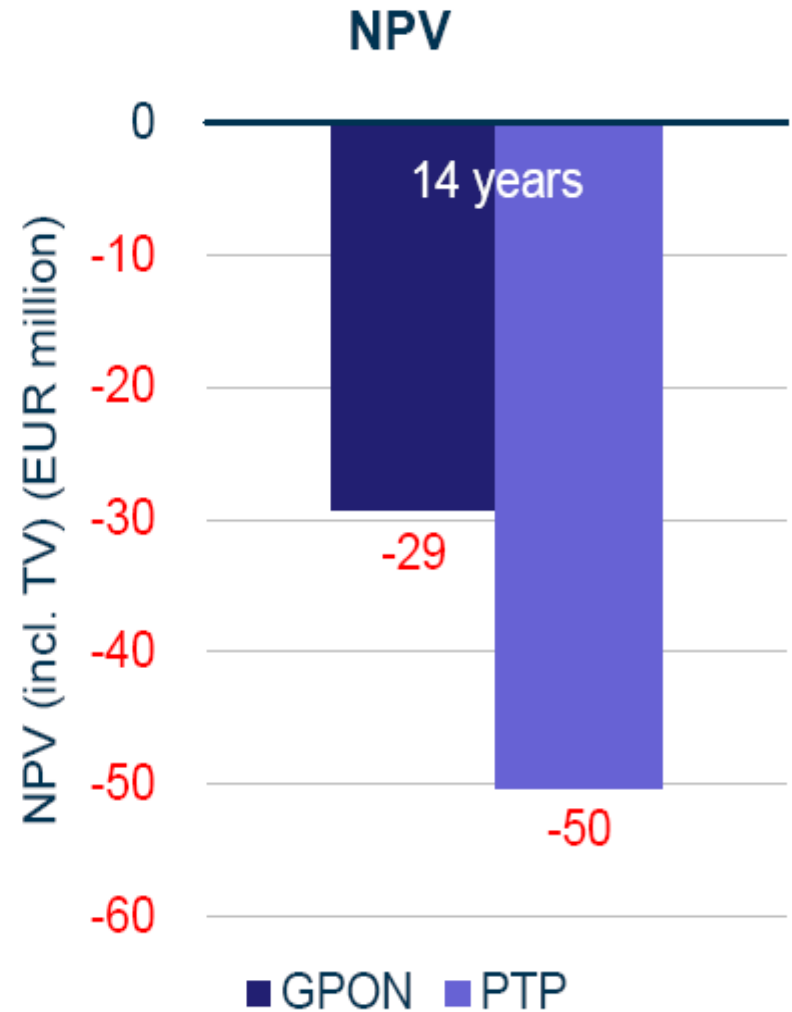
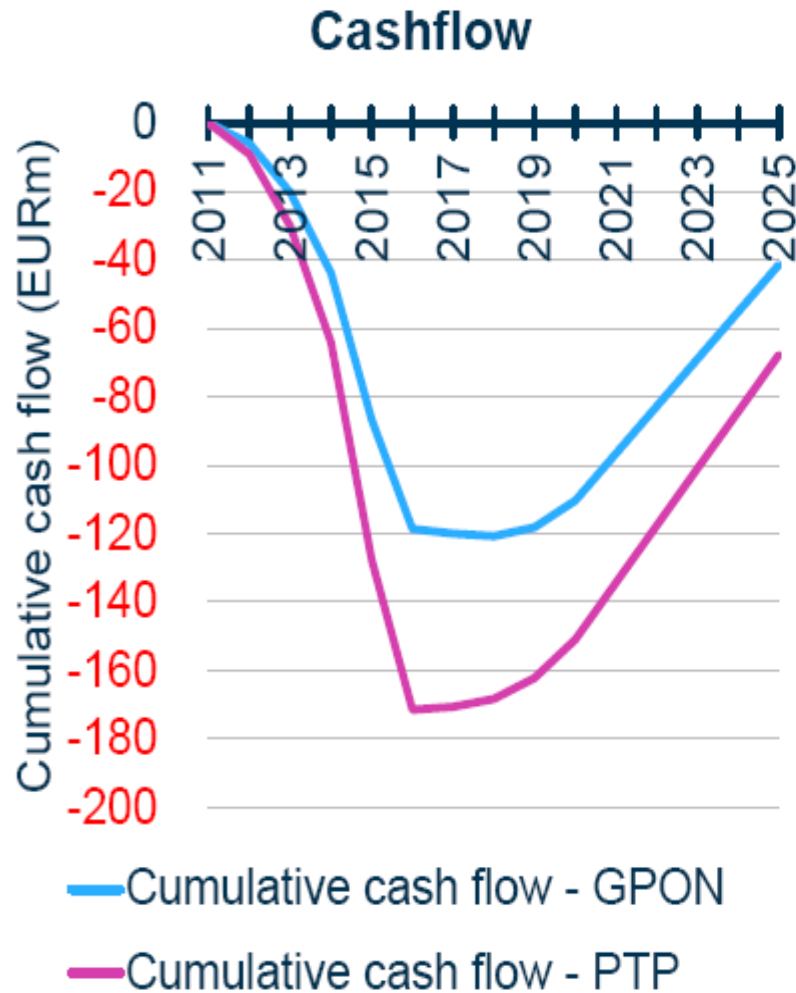
Commercial in confidence

## Revenues



■ Total Revenue - GPON  
 ■ Total Revenue - PTP

# This all suggests a subsidy of ~€29-50m



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# Is this a fair price to pay ?

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- 1) For meeting the Government's objectives
- 2) For meeting the DAE targets (without sole reliance on cable)
- 3) For securing a workable wholesale access regime

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# It may be, if the socio-economic case holds

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- Economic and social cost benefit analysis following standard EU approach
- Example for GPON (€m):
  - Total project costs (capex and opex) **-267**
  - Total project revenues +226
  - Terminal value +125
  - Benefits to businesses & Government +58
  - Consumer surplus +183
  - Social provision (health) +70
  - **Economic NPV @5.5%** **+193**
- GDP growth rate impact ~ 0.2%-0.5% p.a.



# Several delivery models are possible, but some are more suited to the Maltese context

Model	Assessment	Examples
Community / bottom-up	Not suitable given national objectives	Norway
Private Design Build Operate	Possible	UK (Cornwall, Wales, Northern Ireland), Singapore
Public outsourcing	Not suitable given scale of project (on Govn. balance sheet)	MANs in Ireland
Joint venture	Possible	Citynet, Amsterdam
Public Design Build and Operate	Not suitable given scale of project	NBN Co in Australia

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# Two possible options

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## ▪ Joint Venture

### Advantages

- Potential benefit for both parties (risk sharing)
- SPV allows for alternative investment sources

### Disadvantages

- Possible multiple operator Conflicts of Interest challenges
- Few working examples

## ▪ Private DBO

### Advantages:

- Large scale
- Low public burden
- Transfers operational risk to private sector

### Disadvantages:

- There needs to be sufficient funding to attract private interest
- Limited control over operations

# Other useful things the Government can do

Action	Benefit
Reforming building regulations	➤ Lower costs of connection
Reforming procedures and processes for opening roads and carrying out works in public areas in order to reduce administrative costs and delays	➤ Faster deployment ➤ Lower costs of deployment
Making available state infrastructure such as duct, water and electricity networks to all operators in the market for the purposes of efficiently deploying an NGA network	➤ Lower costs of deployment ➤ Potential to stimulate market entry

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# Possible next steps (1): preparation and planning

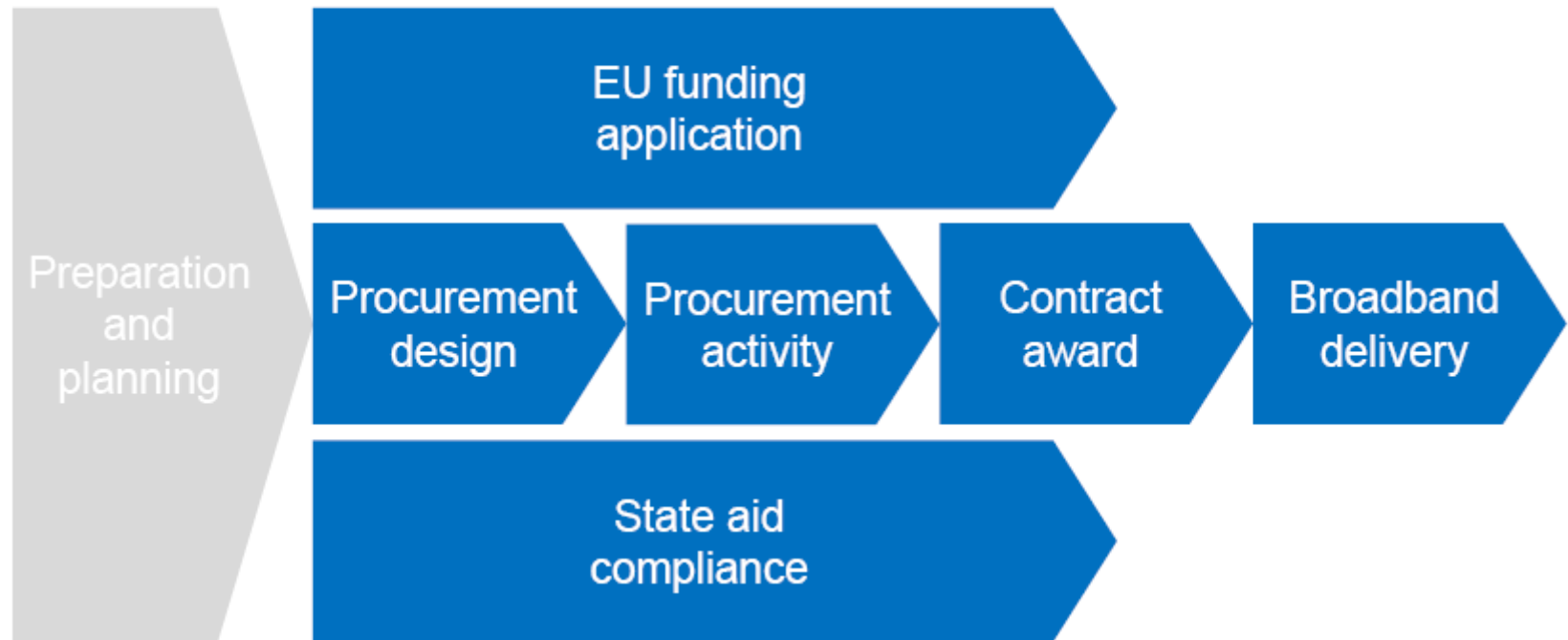
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- Finalise government decision to provide funding
- Set up a state aid “task force”
- Issue a request for interest to the market
- Finalise government’s preferred investment model – JV or private DBO
- Explore EU funding (Connecting Europe Facility)

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# Possible next steps (2): go to market

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# Thank you

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