ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT

Fibre investment and competition

ECTA

Brussels, Belgium

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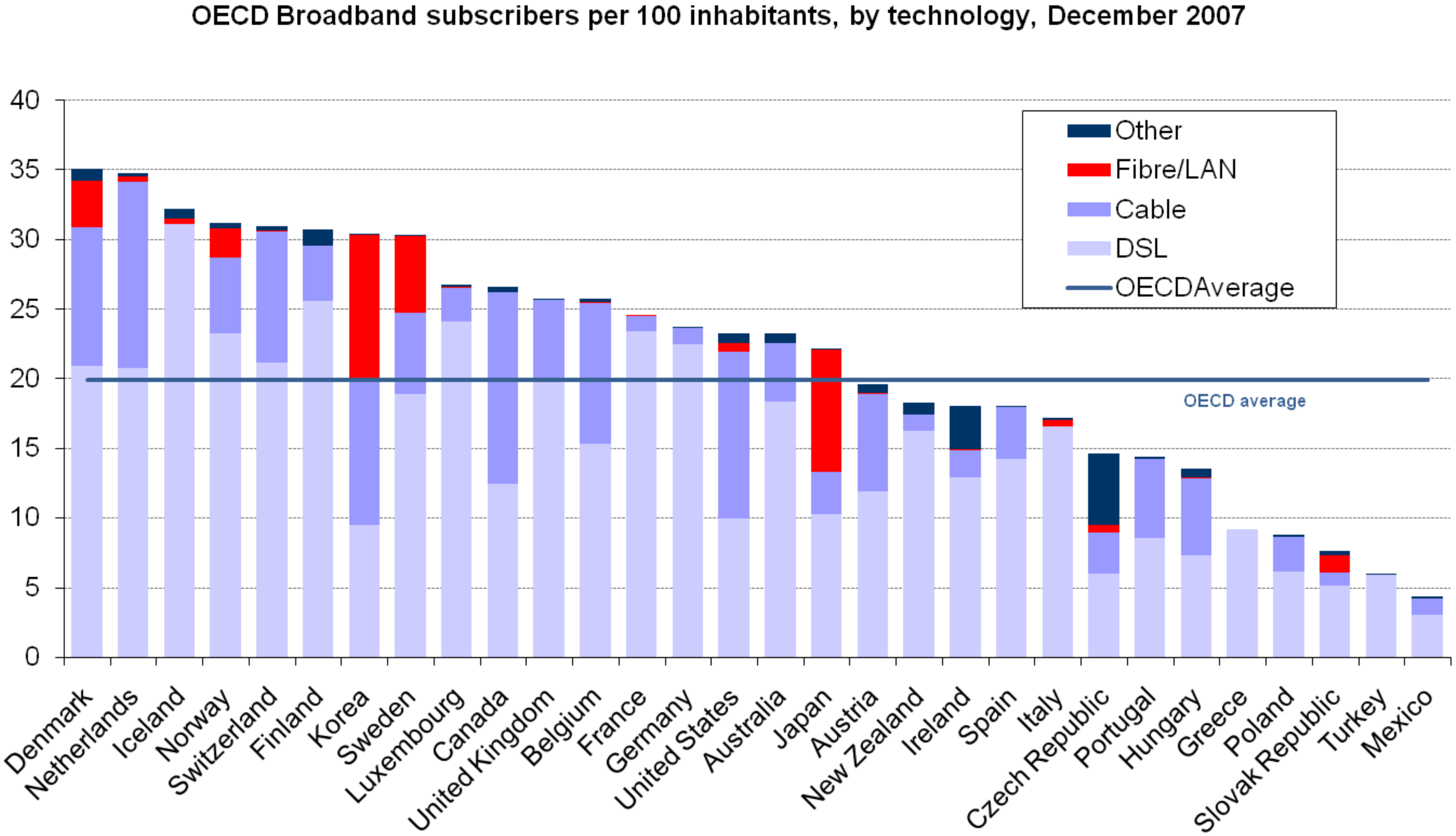
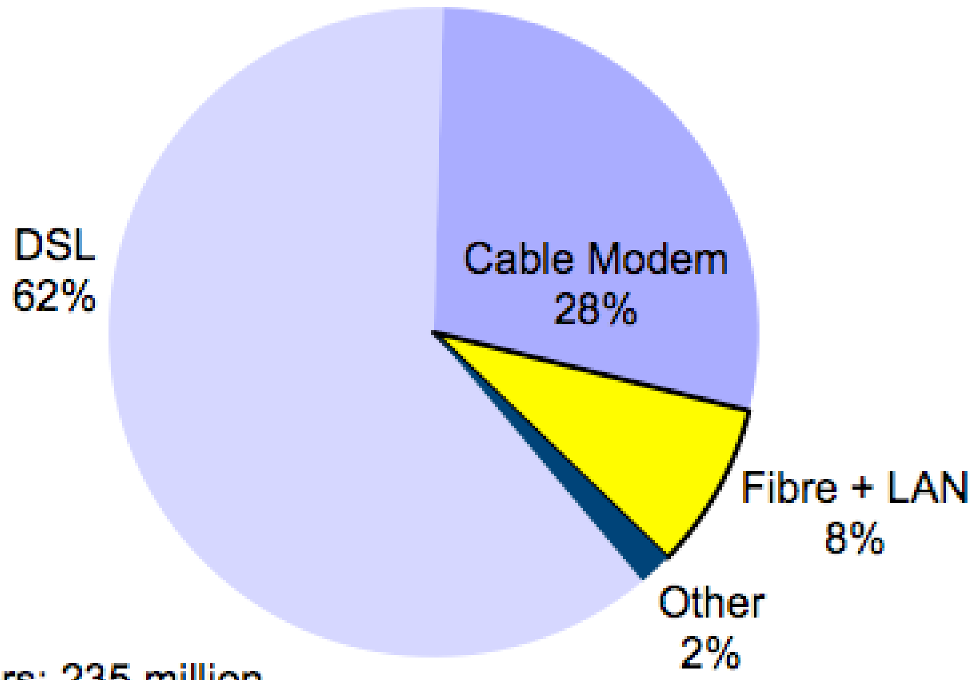
Broadband penetration



Source: OECD

Fibre vs. other broadband technologies

OECD Broadband subscriptions, by technology, December 2007



Total subscribers: 235 million
Source : OECD

Investment:
The fibre premuim details

- 36% increase in nominal revenues for fibre
  – 12 EUR/month per subscriber
    - EUR 2500: 24 year write-off (i = 5%)
    - EUR 1000: 8.5 year write-off (i = 5%)
    - Must find ways to reduce passive infra costs

(↑) Transit/backhaul costs likely up

(↓) OPEX falls

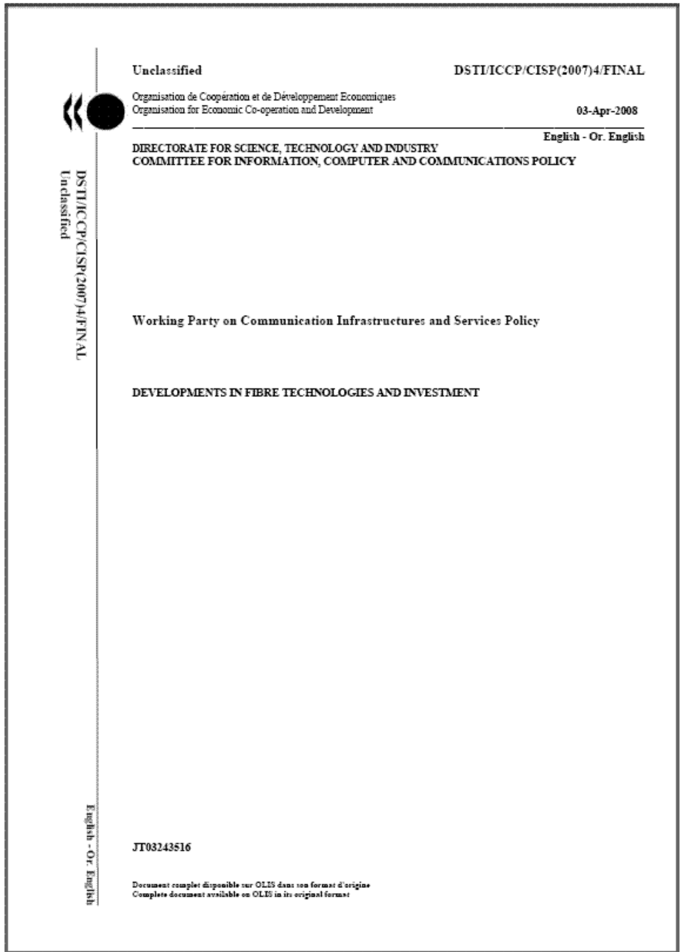
Reducing costs

- Use existing passive infrastructure
- Decore copper cables
- Lay conduit whenever possible

Investment:

Penetration ➔ Success

- OECD research shows that investment decisions will be very closely tied to expected penetration rates
- Most markets will not be able to sustain more than one new FTTH or VDSL operator



Unclassified DSTI/ICCP/CISP(2007)4/FINAL

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development 03-Apr-2008

English - Or. English

DIRECTORATE FOR SCIENCE, TECHNOLOGY AND INDUSTRY
COMMITTEE FOR INFORMATION, COMPUTER AND COMMUNICATIONS POLICY

DSTI/ICCP/CISP(2007)4/FINAL
Unclassified

Working Party on Communication Infrastructures and Services Policy

DEVELOPMENTS IN FIBRE TECHNOLOGIES AND INVESTMENT

JT03243516

Document complet disponible sur OLIS dans son format d'origine
Complete document available on OLIS in its original format

English - Or. English

http://www.olis.oecd.org/olis/2007doc.nsf/LinkTo/NT00005E06/$FILE/JT03243516.PDF

NL business case: High penetration needed

Penetration Rate	15%	25%	33%	50%	75%	100%	50% at 5% profit	50% at 7.5% profit
Triple Play	22	22	22	22	22	22	22	22
Monthly charge Passive	67,80	40,68	30,82	20,34	13,56	10,17	15,02	17,66
Monthly charge Active	19,44	17,94	17,43	16,91	16,42	16,28	14,83	15,85
VAT 19%	20,76	15,32	13,35	11,26	9,88	9,21	9,85	10,55
Total	130,00	95,94	83,60	70,50	61,86	57,66	61,70	66,06

- NL cable triple play offers – June '08
  - 800 kbit/s: EUR 39.95
  - 8 000 kbit/s: EUR 49.95
  - 16 000 kbit/s: EUR 64.95

Ultimate fibre goal

- Having one provider offering fibre-to-the-home Internet access is good

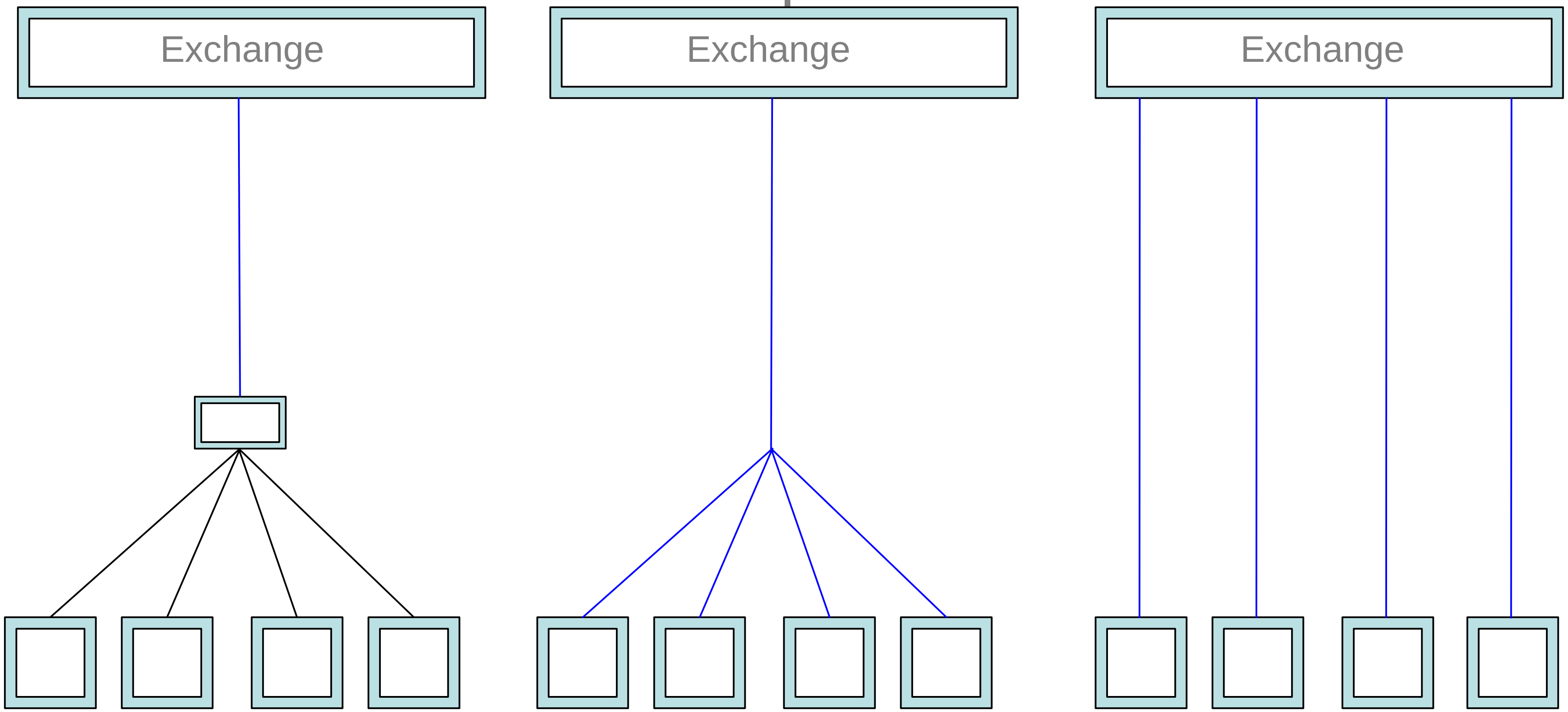
- But government policy needs to consider the ultimate goal:

Competitive fibre-to-the-home

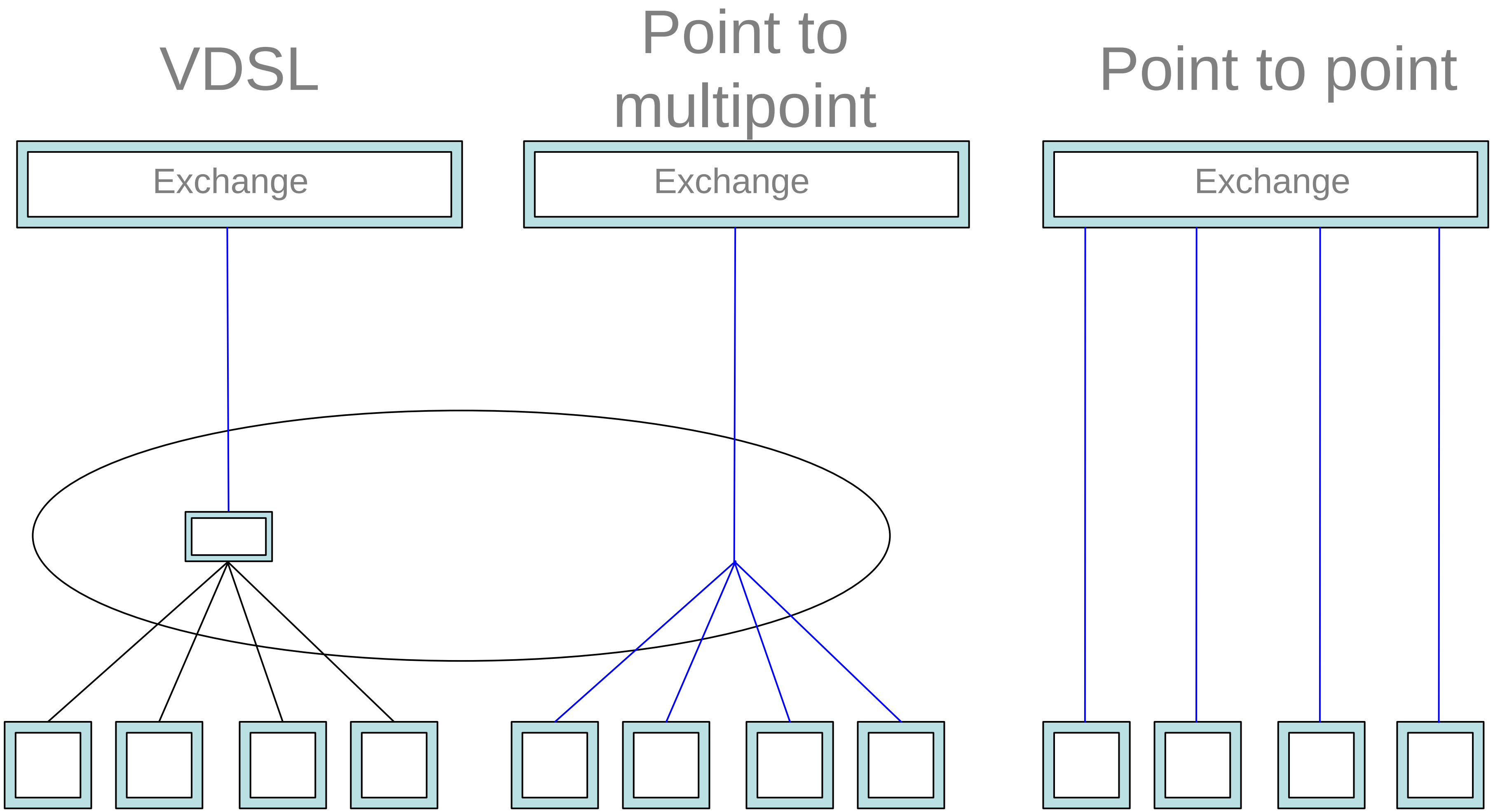
http://i.pbase.com/o3/24/598024/1/78189271.bxSxEGlu.asia0044copy.jpg

Topology matters

VDSL | Point to multipoint | Point to point



Problem areas for competition



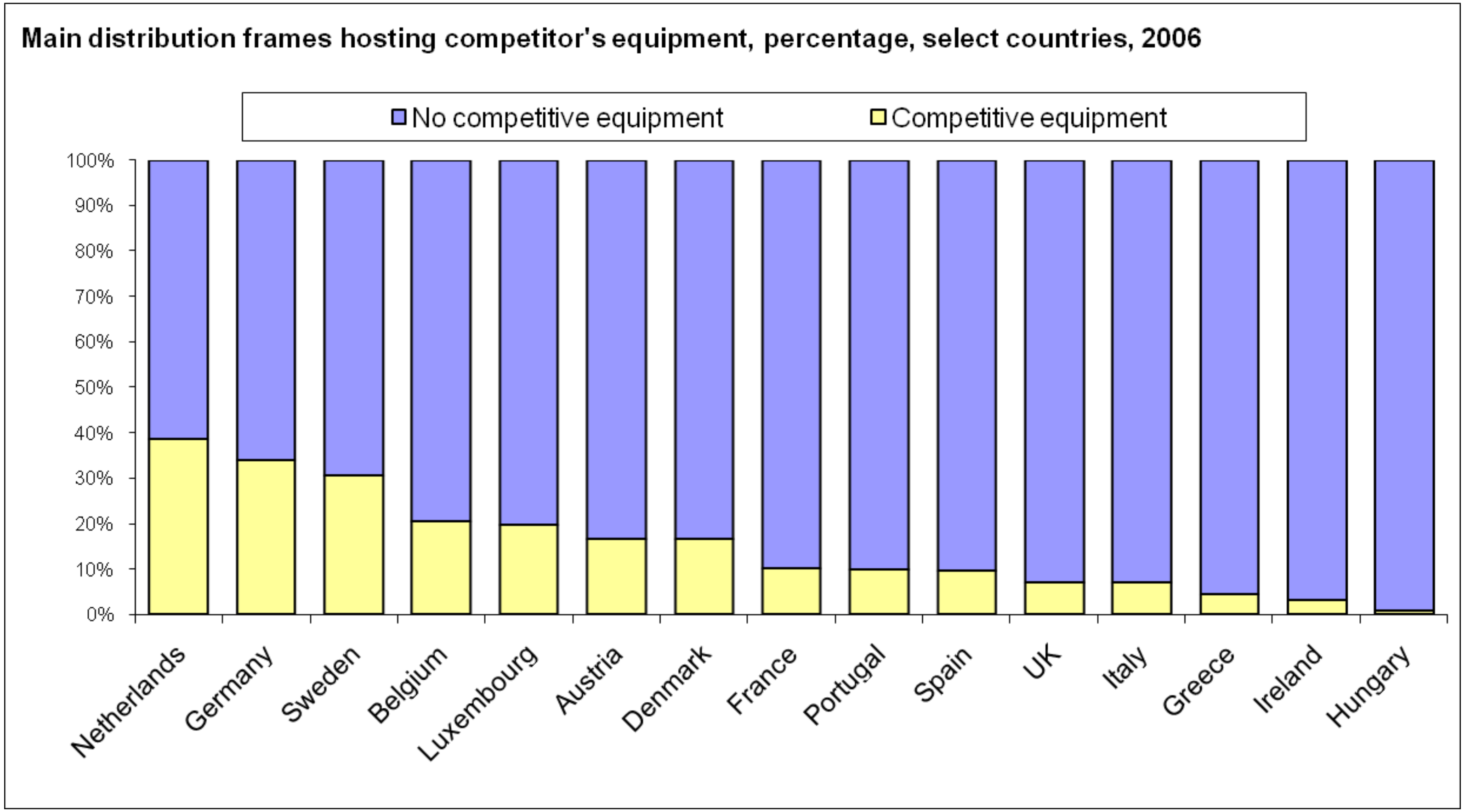
VDSL issues

http://upload.wikimedia.org/wikipedia/commons/b/b3/Outdoor_DSLAM_Endstufe.JPG
http://www.dslreports.com/r0/download/1302704~e11f58b22ae7230711aac5e1d9b7d71a/ComcastAd.200.jpg

Point to multipoint splice

http://www.broadbandsoho.com/Verizon_FTTP_Tutorial.htm

VDSL/P2MP:
What to expect at the cabinet/splice

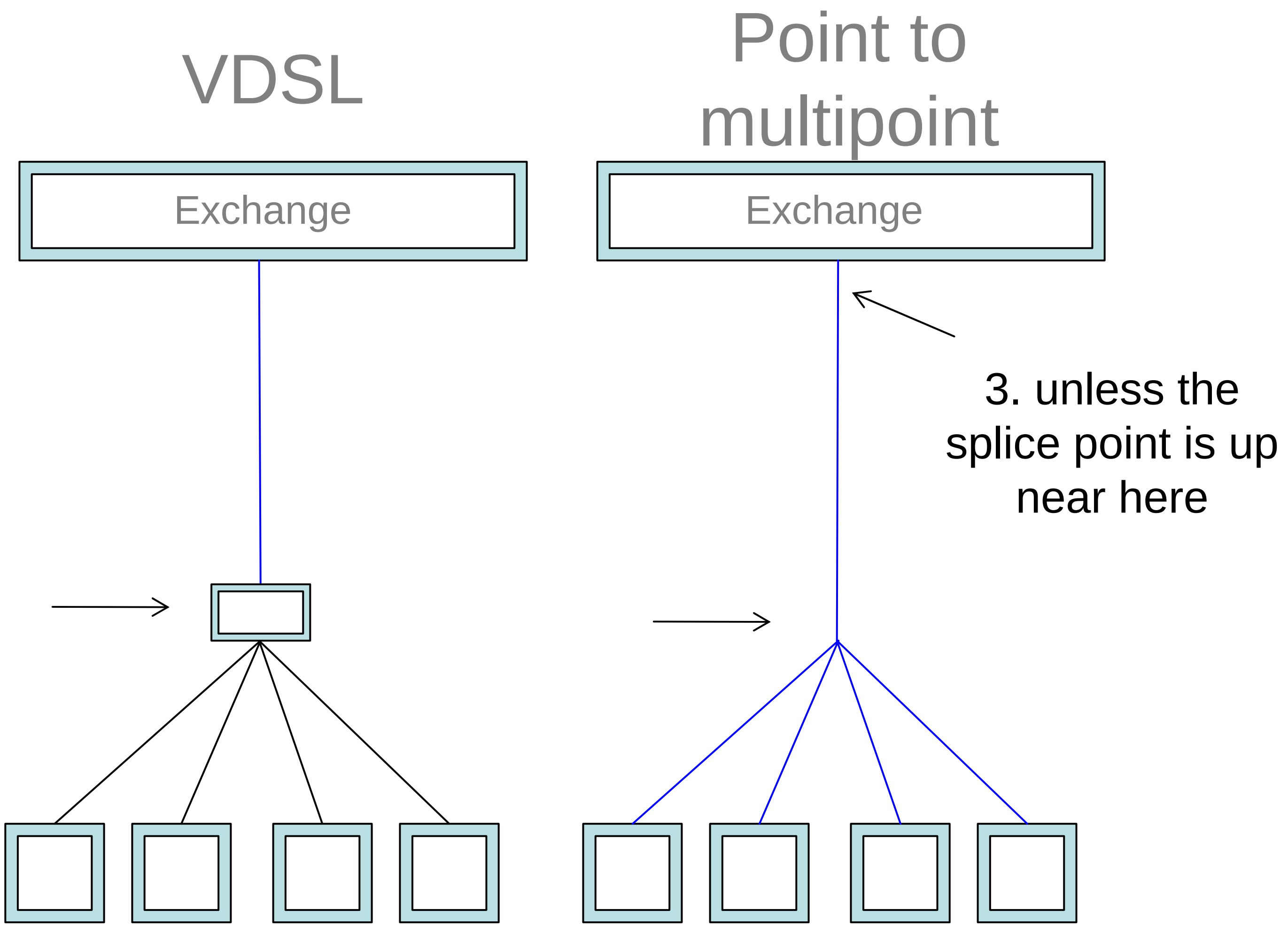


Source: ECTA

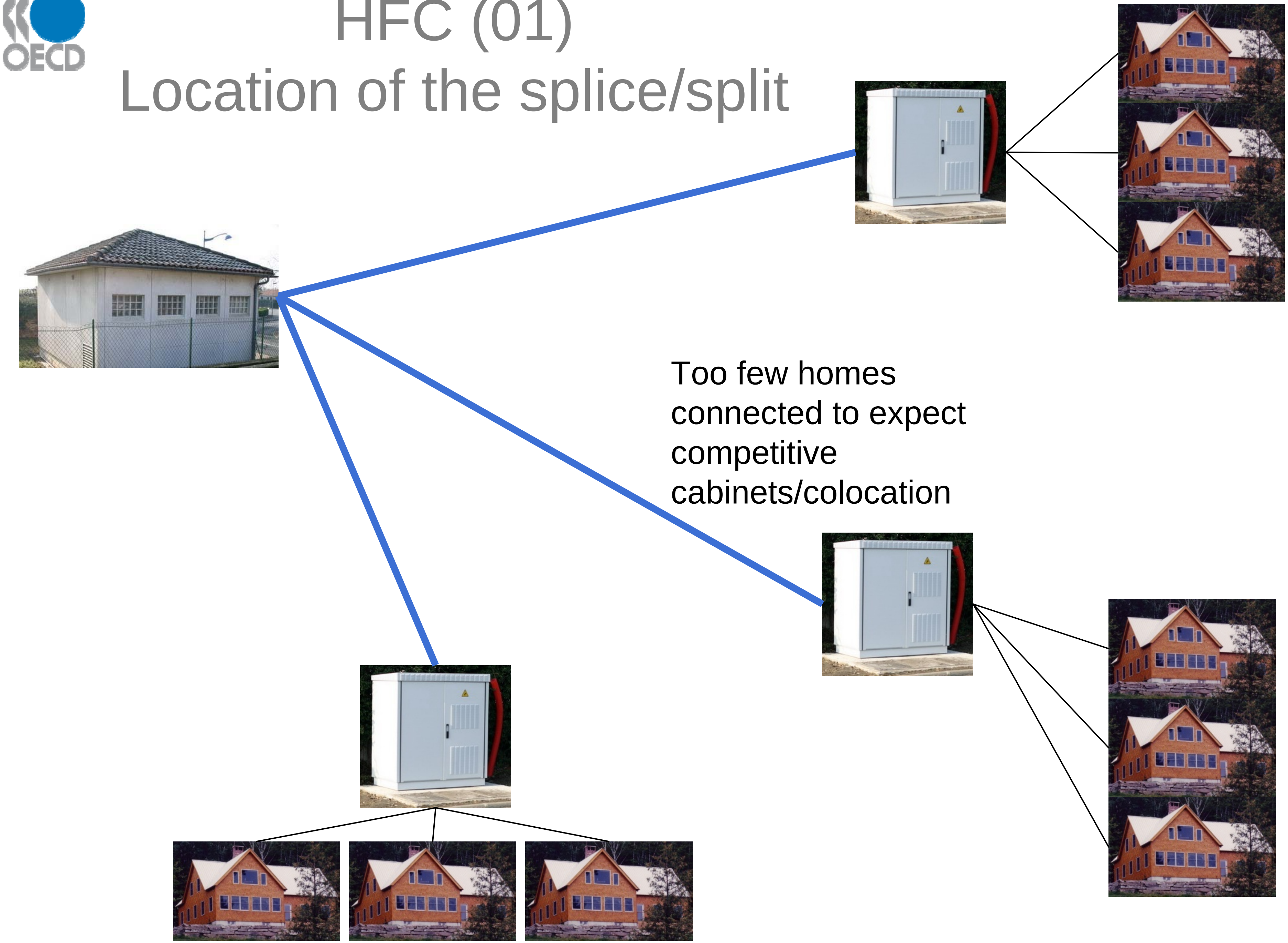
Reality check

1. The exchange will likely remain the point for competitive access

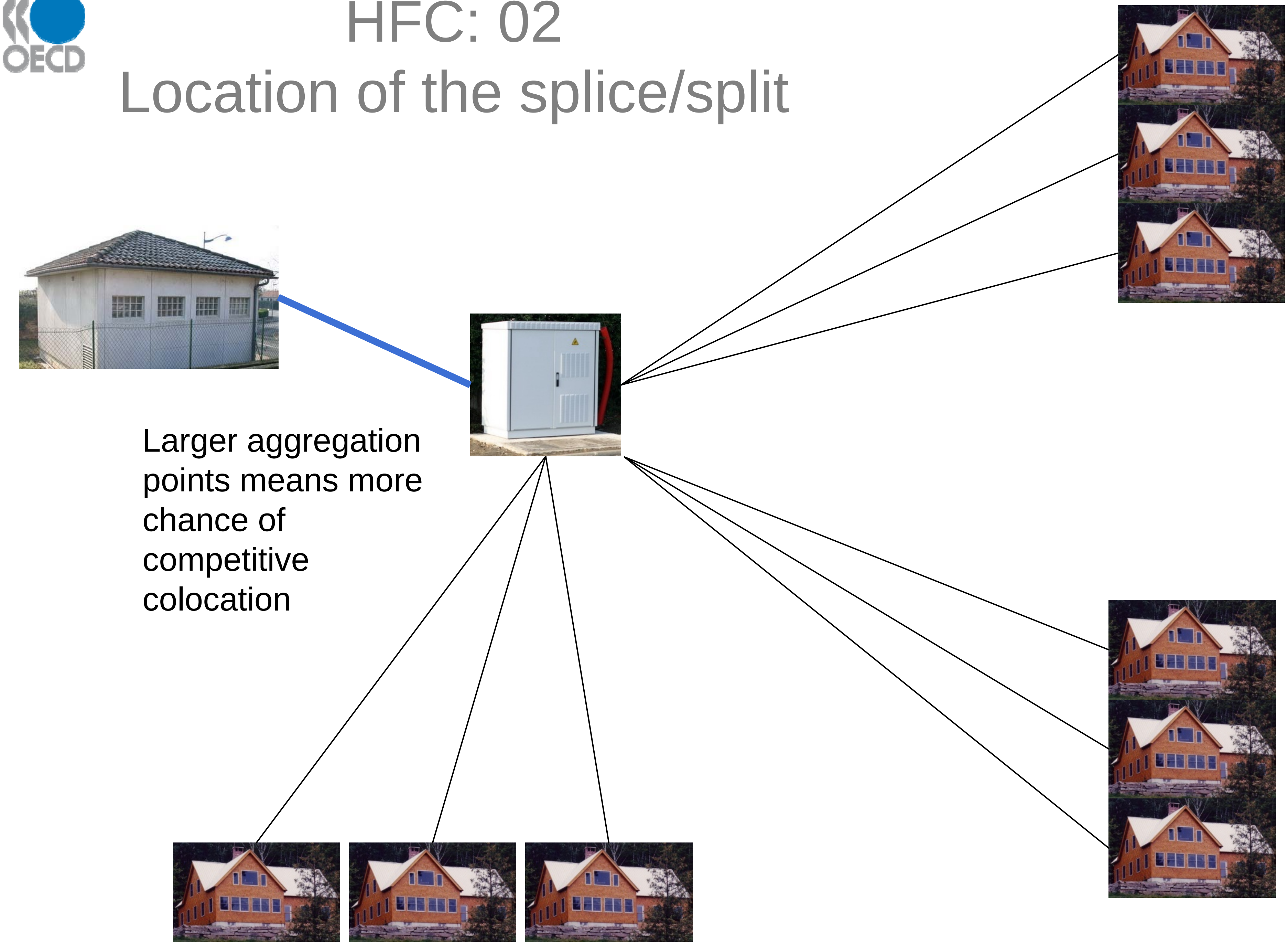
2. Competitors can't economically reach and install here so they won't



HFC (01)
Location of the splice/split

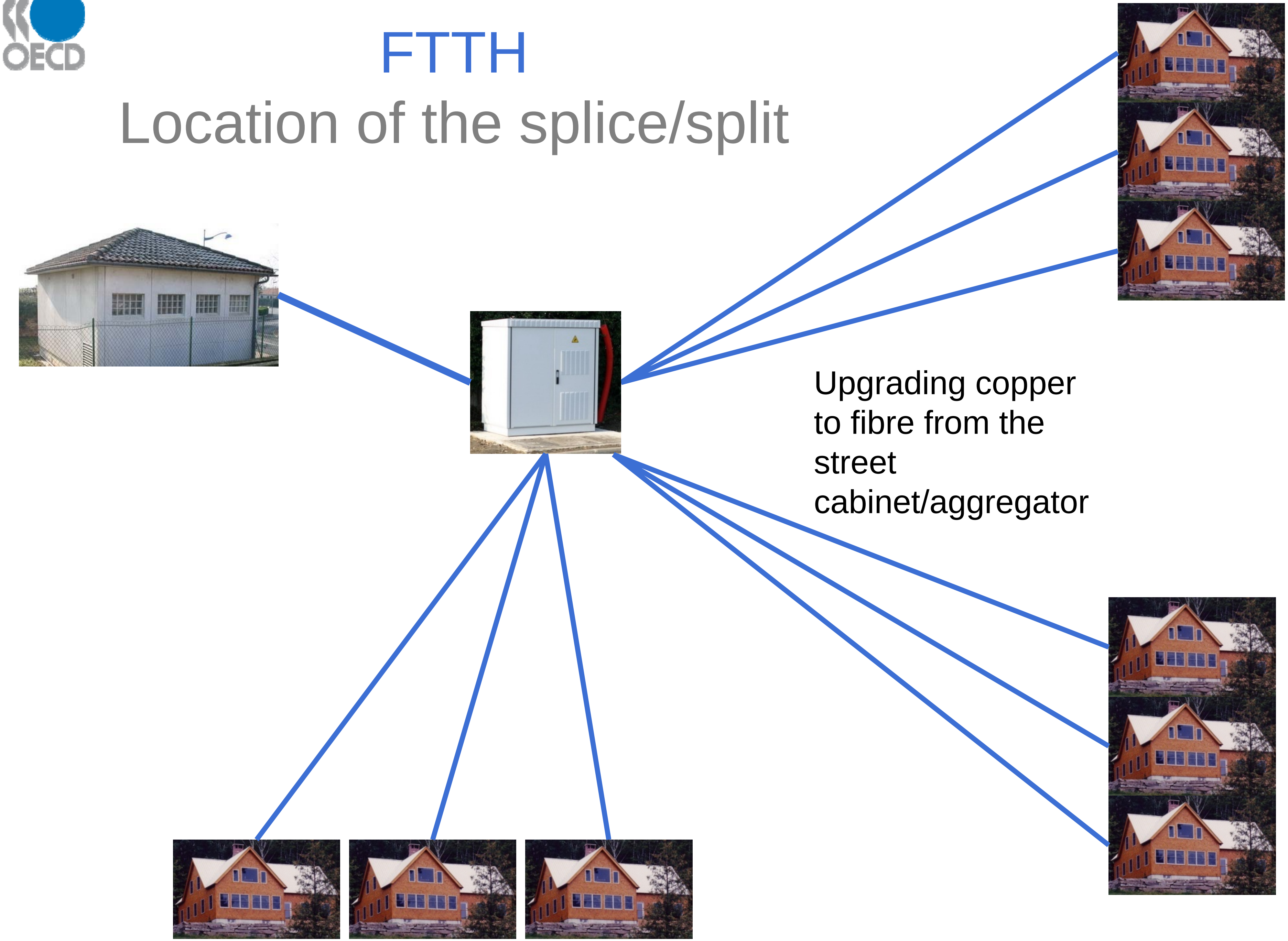


HFC: 02
Location of the splice/split



Larger aggregation points means more chance of competitive colocation

FTTH
Location of the splice/split



Innovation thrives when competitors take over lines

Free (France) service offer		
	No unbundling	**Unbundling**
Download (Mbit/s)	10	28
Upload (Mbit/s)	1	1
Telephone	Free, 70 countries	Free, 70 countries
Television	-	200 channels
TV perso	-	Yes
Digital TV recorder	-	Yes
VoD	-	Yes
Radio	-	50 digital channels
Price	EUR 29.90 + fixed line	EUR 29.90

Source: http://adsl.free.fr/offre/grille.pdf

Current debates: wholesale access

- Bell Canada traffic shapes peer-to-peer traffic using deep packet inspection

- Bell Canada also applies the same traffic shaping to the connections of its wholesale customers

Network separation

- Many areas will have only one fibre entering each home.
- Structural or functional separation is an option to ensure competitive access to the fibre in a non-discriminatory way at cost-based prices
- Could be private- or public-sector led
- Does not solve unbundling problem with P2MP and HFC.
- Again, topology matters

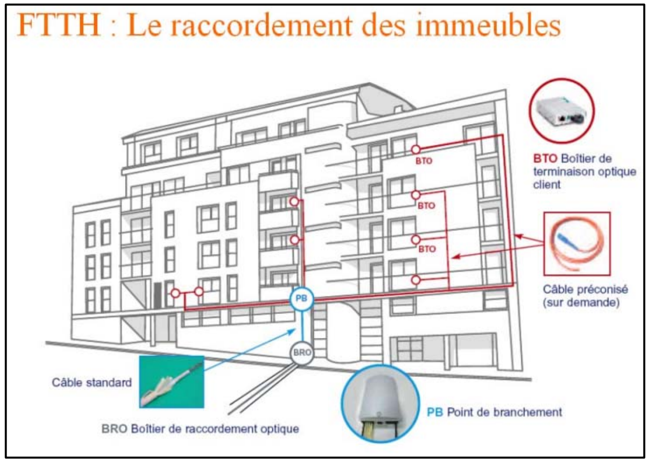
Government: Barriers to entry

Ducts

Rights of way

Poles

Internal wiring



Conclusions / key findings

- For fibre rollouts, it is the **topology**, not technology which matters most
- The success of business models depends on **penetration rates** but many markets will be unable to support more than one new rollout
- Operators must find ways to reduce **passive infrastructure** costs
- Most OECD countries rely on unbundling but point-to-multipoint topologies (VDSL & PON) **complicate the competitive access** model and may limit innovation in the market
- Individual lines to subscribers should be **aggregated** as much as possible to allow for physical competitive access
- When governments intervene they must seek to **improve competition** and operate under open-access rules

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Thank you