Financing Stimulus for FTTH.
Funding Europe's €202 billion access fibre upgrade: proposal for a new approach for industry and policy makers

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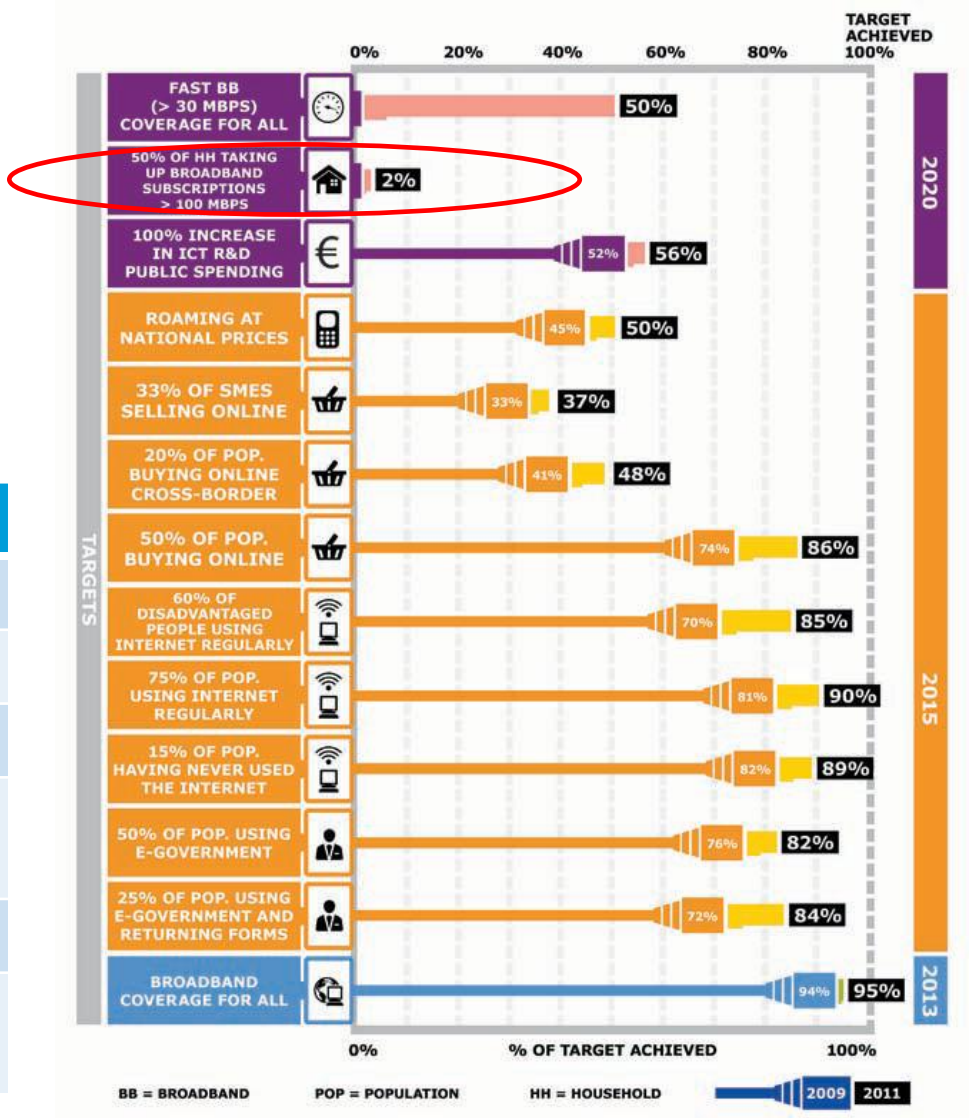
Fibre to the Home Council Europe

Progress towards the 2020 goal for high speed broadband is woeful

Progress to the 2020 goals is too slow:

- Over the past five years ~5m new fibre (FTTH/B) connections have been activated and ~26m homes passed
  (Source: FTTH Council Panorama Dec 2011)
- The meet the targets we need more than 1,200,000 PER MONTH

Metric	Millions
Number of Homes, EU27	210
Currently on 100 Mbps	~1
Gap (potential res+biz broadband – actual)	104
New connections needed per month 2013-2020 on average , millions	1.2
Capital investment to fibre all homes	€202
Equivalent to x years of current industry cashflow from access	~6 years



In Dec 2011 there were 4.5m fibre connections in the EU27 but based on the replacement rate customers already pay for, we should have 35 million premises more (with an extra 350,000 civil works jobs)

There are 230 million premises in the EU27		Buried	Overhead
Assumed mix		66%	34%
Typical regulatory asset life		37	17
Annual replacement rate customers pay for:	**3.8%**	2.7%	5.9%
Say fibre would be default cable after:	2008	5	years ago
Jan 2013 fibre should be:	18.9%	13.5%	29.4%
Estimated pemises passed:	12.6%	?	?
Estimated premises connected on fibre	1.9%	?	?
Shortfall	**17.0%**	of all premises	
	34.8	**million accesses**	
CAPEX shortfall, cumulative over the period		39.2 € billion	
Estimated jobs that would have been created		358,000 each year	

These calculations relate to the replacement of copper by fibre regardless of service – the "fibre switchover". It makes no sense to run two parallel networks in the long term.

Absent regulatory compunction, it has been rational for an incumbent to delay copper replacement as long as possible regardless of the "social contract" embedded in regulated wholesale prices

This simple example shows that although the NPV over 45 years of an upgrade to fibre is positive, it is not as positive as that for simply staying on copper - assuming the same revenues and only modest opex savings with fibre.

To make a case for fibre here the incumbent would have to:

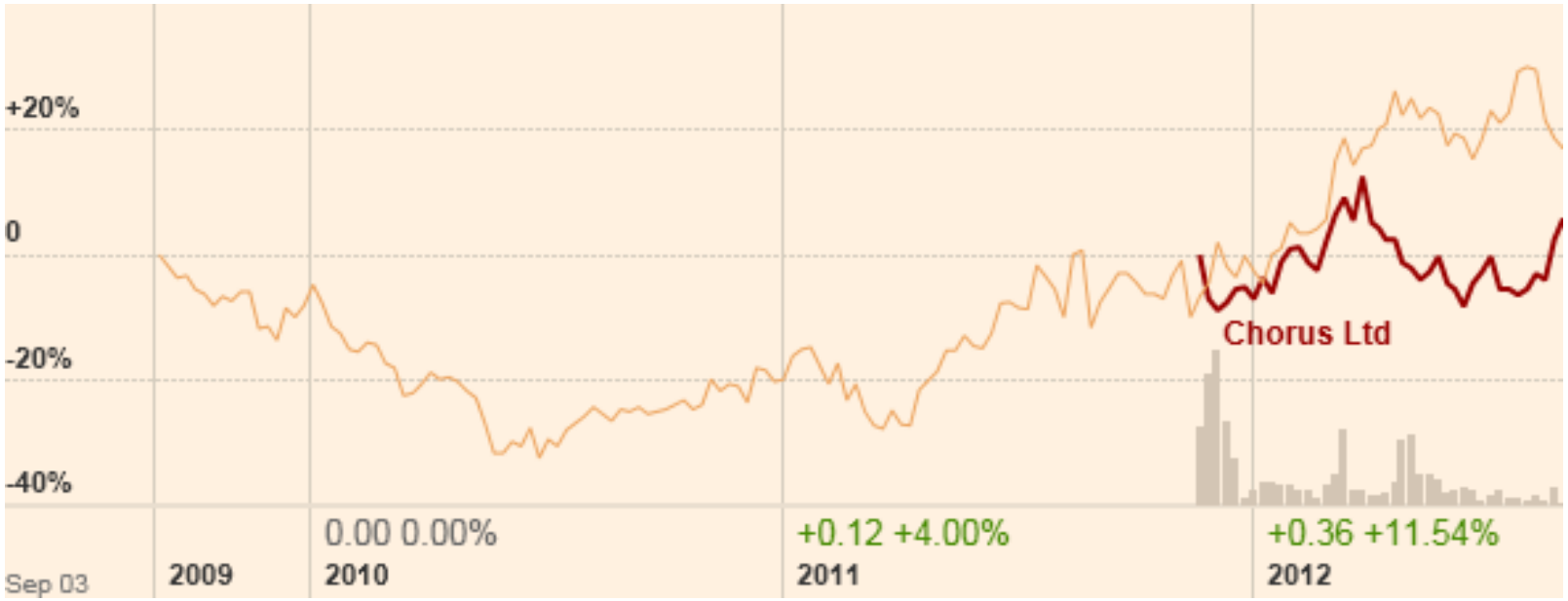
- either fear losing 30% market share in 3 yrs or;
- be able to maintain a monopoly with a 25% price rise to €10.65 /mth.

Upgrade copper to fibre for	5,000,000	accesses
Fictional area passive only upgrade CAPEX	800	€
Wholesale price per month for copper	8.55	€ / month
Wholesale price for fibre (current WACC)	5.36	€ / month
Wholesale price for fibre used below	8.55	€ / month
Monthly opex saving from fibre	0.5	€ / month
Default cost of capital	6.3%	per annum
which includes implicit inflation assumption	2.2%	per annum

PV of the copper business (no replacement)	10,381	€ millions
PV of the fibre upgrade	7,586	€ millions
Difference in NPV (fibre - copper)	-2,795	€ millions
NPV difference per customer	-559	€

Received wisdom is that investors will flee telecom stocks if faced with fibre capex but hard evidence suggests the opposite. Telecom New Zealand shareholders made 37% TSR in one year because of mass fibre!

Comparison of Telecom New Zealand (faint orange line - TEL:NZC) **and Chorus** (red - CNU:NZC) **share prices before and after end Nov 2011 divestment of the local loop into Chorus**.

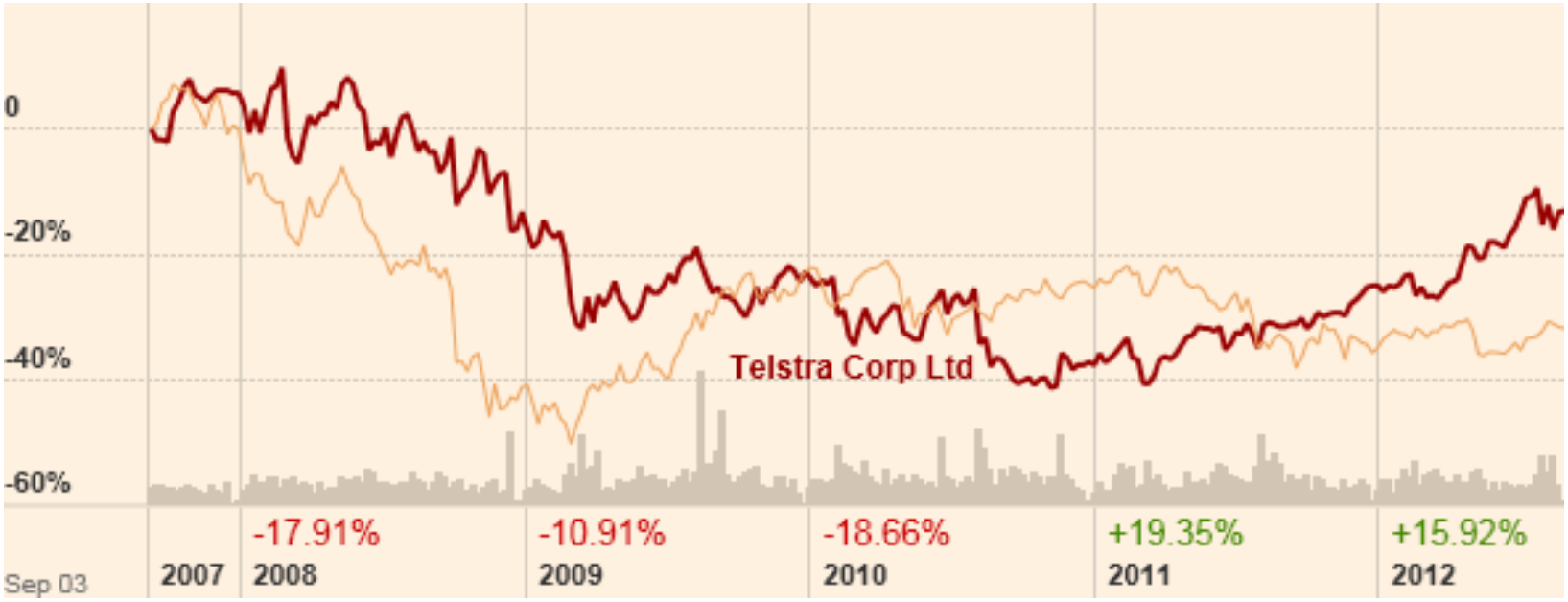


Source: Financial Times, FT.com

Shareholders received 1 Chorus share for every 5 TCNZ and this split seems to have released hidden value – the TCNZ price remains stable or grows instead of of falling 20% as one might expect. In fact total TCNZ shareholder returns were 37% over the 12 months up to 23rd Feb 2012.

In Australia the Government will renew the local loop by buying Telstra's assets and providing wholesale access in a rolling programme – compared to the AUS 250 index Telstra shares seem fine (16% up)

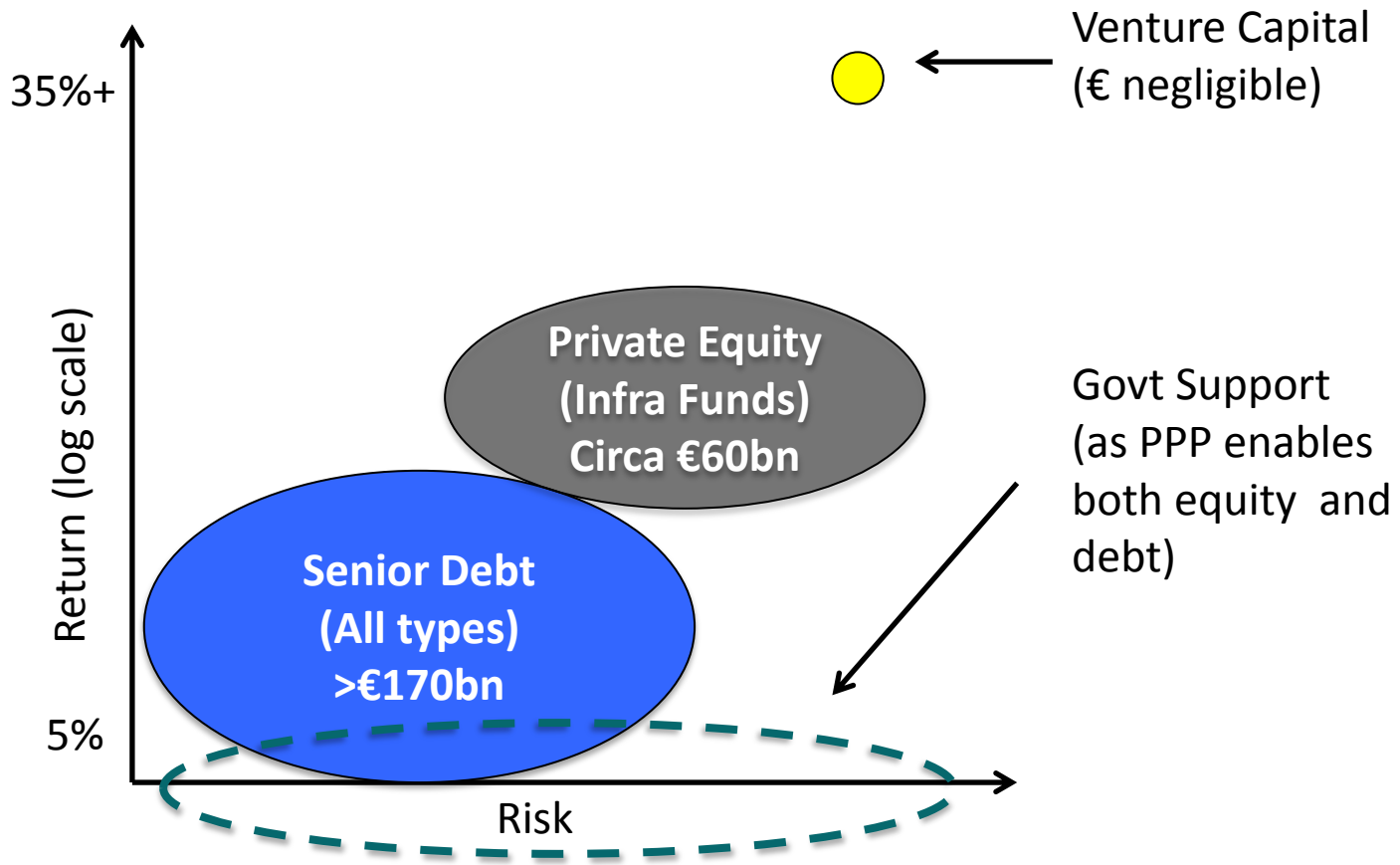
Comparison of Telstra (red line - TLS:ASX) **with the Australian 250 Index** (faint orange - XJO:ASX).



Source: Financial Times, FT.com

2007: On 24th November the election returned a Labour Party Govt committed to the NBN.
2008: Legislation passed 1H 2008 and an RFP process officially excluded Telstra from NBN in December.
2009-2011: NBN starts-up and begins deployment
2012: Q1 Telstra structurally separated and agrees "pit and pipe" compensation deal with Govt.

Finance for access fibre comes in a variety of forms and at different costs but in total there is €230 billion available over 8 years and this supply of capital could easily expand if the right deals are available



A Public-Private Partnership between Authorities and operators, as part of a package of measures, should be acceptable to all stakeholders

- The fundamental issue in fibre finance is market risk.
- In a PPP a Govt Authority takes some or all of the market risk with Availability Payments enabling private investment (for ~60% - ~95% of project cost).

Investors

Infra funds / banks have new stream of deals with Govt taking (most) market risk
Telco shareholders unlock hidden value

Operators

Combination of regulatory incentives and shedding low return assets may encourage anchor tenancies

Govt / taxpayers

Short term economic stimulus and jobs

Long term macroeconomic and social benefits

We are now evaluating a range of options and ideas emerging from our many interviews and desk research and will aim to prioritise these in the report under the overall concept of a Fibre Switchover programme

Fibre Switchover:– a joint programme between Government & industry to modernise Europe's access network replacing all copper pair accesses by fibre within 20 years

Regulatory Incentives

- Regulation could provide both a positive incentive for investment and also enforce the (social) contractual rate of replacement

Boost Liquidity

- Industry and Government could work together to tap new sources of capital – probably to the benefit of existing telco shareholders

Smarter Interventions

- Government interventions should focus on project generation and on creating bankable entities to maximise private sector participation - downplay or end simple subsidies

Possible elements of the Fibre Switchover

"Contractual" replacement	Wholesale price increase	Obsolescence cashflow clawback	Unbundle the NRAs
Simply ensure timely renewal	Permit higher prices now in return for lower prices later	Cf from obsolete assets → Authority → fund fibre projects	Breakout regulation of passives to new specialist bodies
PPP Financing (esp for white areas)	**Project bonds**	**Additional Grant funding**	**Corporate tax incentives**
Gov't support via Availability Payments, changes deal economics	USA: repaid by tax gains from a project EU: Govt guarantees part or full repayment	Increased grant funding using current methods	Tax-shield by write-offs or accelerated depreciation of fibre related assets
Fibre Development Corporations	**Sponsorship of self build**	**Household tax incentives**	**Mortgage backed schemes**
~5 impact investors around EU – remit to focus on impact, not financial returns	Authorities could foster community projects but each needs adequate funds	Income, property or VAT tax breaks for those investing in on-site or local fibre	Underwrite or incentivise €1-€5K per existing borrower for fibre improvements