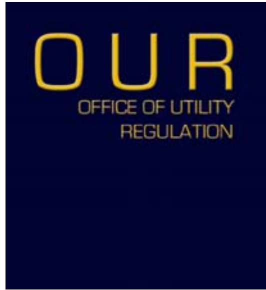

Office of Utility Regulation

Review of Cable & Wireless Guernsey Price Control

Draft Decision

Document No: OUR 07/19 **November 2007**

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Annex A C&WG's Cost of Capital

Annex B Separate Document - "*Review of C&WG Operating Cost Forecasts*" prepared by Frontier Economics (Confidential to C&WG)

Annex C Separate Document - "*Allocation of Costs in C&WG's Price Cap Business Model*" prepared by Frontier Economics (Confidential to C&WG)

Annex D High Level Extract from "Review of Capex Forecasts included in C&WG's price cap Business Plan" prepared by Frontier Economics (Clawback Methodology)
(a full version of this Annex has been given to C&WG)

Annex E Separate Document - "*Review of C&WG's Business Plan Demand Forecasts*" prepared by Frontier Economics (Confidential to C&WG)

Annex F Market Status in Number of Jurisdictions

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1. Introduction

The Office of Utility Regulation ("OUR") in May 2007 issued a consultation paper[1] (OUR 07/08) seeking views on a proposed new price control for C&W Guernsey ("C&WG"). The rationale for price controls on certain services where there is a lack of effective competition has been discussed previously in OUR documents and the Director General ("DG") believes that in light of his legal duties such controls remain a useful and appropriate regulatory measure in the Guernsey telecoms market.

The objective of the regulatory regime is to ensure that Guernsey consumers receive the best in price, choice and quality of utility services and that Guernsey has strong vibrant utility sectors that contribute to and underpin the continued economic success of the Bailiwick. The Guernsey telecommunications market is continuing to change as it evolves towards a more competitive market. The development of competition is taking place more quickly in certain market segments than others and where effective competition does not, or is not likely to develop, the DG has the power to use specific regulatory measures to act as a proxy for competition and protect consumers' interests. One such measure is a Retail Price Control. Since 2002 elements of C&WG's retail product portfolio have been subject to price controls by the OUR.

The first price control came into effect in March 2002 and a further price control was put in place in September 2005 which will expire on 31 March 2008. The DG therefore consulted on a range of issues in May 2007 relating to any future price control on C&WG. The DG received responses from the consultation paper from C&WG and Wave Telecom. The DG would like to thank both parties for their responses to the consultation documents and all licensed operators for the information provided in response to the market analysis questionnaires.

The DG has considered fully all of the comments made and has been informed by the other information available to him, including the Price Control Business Plan ("PCBP") submitted by C&WG on July 31st 2007. The results of his analysis are set out in this draft decision paper. To assist him in this task the DG commissioned expert consultants (Frontier Economics) to review elements of C&WG's business plan. Where the DG's analysis is based on ranges for specific assumption (e.g. market shares for national calls), the DG has taken the mid point of the range for those assumptions.

In response to commercially confidential submissions included within the PCBP this draft decision document contains a number of confidential annexes which set out the DG's position on certain issues raised during the price control review. These annexes have therefore been provided solely to C&WG.

[1] Price Control for Telecommunications Services in Guernsey: Review of C&W Guernsey's Price Control Consultation Document

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This paper sets out the DG's conclusions on the issues being considered and is based on the DG's consideration of the best available information at this time including the outputs of the OUR's own economic modelling, the assessment of C&WG's business plan and the OUR's market analysis. Taken together these assumptions and conclusions have informed the DG's proposed position on the scope, structure and format of a new price control for C&WG to come into effect from 1st April 2008.

Interested parties are invited to comment on any of the issues raised in this paper and where appropriate provide any further information or evidence to help inform the DG's final decision. Subject to the consideration of those comments, the DG intends to confirm the final price control decision in February 2008.

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2. Structure of this Paper

2.1 *Structure*

The rest of this paper is structured as follows:

Section 3:	provides a brief summary of the legal and regulatory background to the DG's draft decision;
Section 4:	addresses the issue of dominance in any relevant markets and considers the need for any new price control;
Section 5:	describes the OUR's approach to setting the price control for C&WG and addresses opex, capex, demand forecasts, the appropriate cost of capital for the price controlled business, and Current Cost Accounting issues;
Section 6	considers the scope, duration and structure of the proposed price control arising from the analysis and conclusions presented in section 5;
Section: 7	describes the next steps in the process which will result in a new price control coming into effect from 1st April 2008.

This draft decision paper contains a number of annexes (some of which are confidential and have been provided solely to C&WG) detailing the DG's position on a number of key issues arising from the original consultation papers and C&WG's business plan. These annexes together with an outline of their contents and level of disclosure are listed below.

- Annex A sets out in detail the analysis for determining C&WG's cost of capital.

Annexes B to E have been prepared by the DG's expert advisers, Frontier Economics, and contain commercially confidential information and have therefore been provided solely to C&WG for comment. A high level extract of the claw back methodology is provided in Annex D of the public version of this document.

- Annex B is a review of C&WG's operating cost forecasts included in its price cap business plan.

- Annex C presents a review of the allocation of costs in C&WG's price cap business model.

- Annex D is a review of the capex forecasts included in C&WG's price cap business plan.

- Annex E is a review of C&WG's business plan demand forecasts.

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- Annex F summarises the market status and the extent of competition enhancing measures in a number of jurisdictions against which Guernsey can be compared.

2.2 *Comments*

Interested parties are invited to submit comments in writing on the matters set out in this paper to the following address:

Office of Utility Regulation
Suites B1& B2
Hirzel Court
St Peter Port
Guernsey
GY1 2NH

Email: info@regutil.gg

The period for comments will run from 29th November 2007 to 4th January 2008. All comments should be clearly marked "**Comments on Review of C&W Guernsey Price Control**" and should arrive before 5pm on 4th January 2008.

In line with the policy set out in Document OUR 05/28 – "Regulation in Guernsey; Revised Consultation Procedures", the DG intends to make any further comments received available on the OUR website. Any material that is confidential should be put in a separate Annex and clearly marked so that it can be kept confidential. However the DG regrets that he is not in a position to respond individually to the responses to this consultation.

Any comments received will be taken into account by the DG in informing his final decision regarding C&WG's price control which will come into effect on 1st April 2008.

This document does not constitute legal, technical or commercial advice; the DG is not bound by this document and may amend it from time to time. This document is without prejudice to the legal position or the rights and duties of the DG to regulate the market generally.

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3. Legal Requirements and Regulatory Regime

3.1 *Legal Requirements*

Section 5(1) of the Telecommunications (Bailiwick of Guernsey) Law, 2001 (“the Telecoms Law”), provides that the DG may include in licences such conditions as he considers necessary to carry out his functions. The Telecoms Law specifically provides that such conditions can include (but are not limited to):

- conditions intended to prevent and control anti-competitive behaviour[2]; and
- conditions regulating the price premiums and discounts that may be charged or (as the case may be) allowed by a licensee which has a dominant position in a relevant market[3].

3.2 *Licensing Framework*

In accordance with these provisions in the Telecoms Law, both the “Fixed Telecommunications Licence Conditions”[4] and the “Mobile Telecommunications Licence Conditions”[5] awarded to C&WG include the following text:

> *“The Director General may determine the maximum level of charges the Licensee may apply for Licensed Telecommunications Services within a Relevant Market in which the Licensee has been found to be dominant. A determination may;*
>
> *a) provide for the overall limit to apply to such Licensed Telecommunications Services or categories of Licensed Telecommunications Services or any combination of Licensed Telecommunications Service;*
>
> *b) restrict increases in any such charges or to require reductions in them whether by reference to any formula or otherwise; or*
>
> *c) provide for different limits to apply in relation to different periods of time falling within the periods to which the determination applies.”*

This condition allows the DG to regulate the prices that a licensee charges for its telecommunications services in a way and for a time that he deems appropriate, where the licensee has a dominant position in the relevant market.

[2] Condition 5(1)(c) of the Telecommunications (Bailiwick of Guernsey) Law, 2001.
[3] Condition 5(1)(f) of the Telecommunications (Bailiwick of Guernsey) Law, 2001.
[4] Document OUR 01/18; Condition 31.2
[5] Document OUR 01/19; Condition 27.2

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4. Review of Dominance Findings & Need for Price Control

4.1 *Review of Dominance*

In OUR 05/19, the previous market review findings in 2005, the DG found C&WG dominant in the following markets:

- wholesale fixed-line telecommunications market; and
- the retail fixed-line telecommunications market.

The DG also found C&WG dominant in the retail mobile telecommunications market and both C&WG, and Wave Telecom dominant in the wholesale mobile telecommunications market on their respective networks. Following the award of 2G and 3G licences to Airtel in September 2006, the DG also found Airtel dominant in the wholesale mobile telecommunications market on its network.

Developments in the market since the 2005 Decision suggested it might be appropriate to consider further disaggregation of the wholesale and retail fixed line telecommunications markets to include wholesale and retail leased line markets amongst others. In addition, the DG believed that there might be other markets which either require further disaggregation or a review of any finding of dominance. Consequently the DG sought views from interested parties on changes in the relevant markets since 2005 that might necessitate a review of the existing dominance findings within the Bailiwick.

4.2 *Responses from Consultation*

C&WG's submission states that convergence is blurring the boundaries between markets as both supply and demand characteristics change. C&WG suggest the presence of far more powerful players (e.g. Sky) than C&WG active in the convergence market in Guernsey supports this view.

C&WG further maintain the market share that is now taken by off-island telecoms service providers is material, arguing that the use of Skype and other similar services is now significant and expected to grow at a rapid rate over the time of the next price control period. C&WG therefore suggest the DG examines market trends and considers the impact of Vonage, Skype and Corporate VOIP on the local market.

C&WG also argue there is increasing interchange by customers of fixed and mobile devices for access and services. In broadband and voice, C&WG believe failure to win a 3G licence in Guernsey places the business in a weak position relative to its competitors.

In C&WG's view, the emergence of viable fixed access alternatives such as wi-max, further supports the view that there is no longer a need for price cap regulation.

C&WG comment specifically on the proposal to consider on-island leased lines as a

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separate market to off-island leased lines and refer to evidence submitted in response to the consultation on wholesale leased line prices in January 2007. This response also contains a reference to a letter to the DG dated 8th December 2006 that provides more detail on C&WG's views on this area.

In this letter of 8th December 2006, C&WG cite the announcement by Jersey Telecom Limited/Wave Telecom of a £7m investment in off-island connectivity to make the point there is competition in the provision of off-island links. This letter maintains that while on-island and off-island circuits exist in closely related and adjacent markets they are nevertheless separate. C&WG further suggests disaggregation of the market exists beyond on-island or off-island links and regards capacity between Guernsey and the UK, Guernsey and Jersey, and between Jersey and France as competitive. C&WG regard the markets for existing capacity on all off-island circuits as competitive, with C&WG, JT/Wave owning capacity on all systems and Newtel having capacity on the CIEG cable owned in part by Newtel's parent company.

C&WG list the ownership of off-island connectivity, both actual and potential as:

- #7 – Guernsey to UK – jointly owned by C&WG,JT and BT
- #8 – Jersey to UK – C&WG, JT and BT
- #4 – Guernsey to Jersey – C&WG, JT
- HUGO – Guernsey to UK – C&WG/CW
- HUGO – Guernsey to France – C&WG/CW
- CIEG – Guernsey to Jersey
- CIEG – Jersey to France
- Liberty – Guernsey to UK

The letter of 8th December 2006 sets out the view by C&WG that while Wave, Newtel and Itex are able to buy wholesale off-island leased lines from C&WG, in reality all of them use other options and therefore concludes off-island capacity is fully competitive.

C&WG's response to the leased line consultation in January 2007 argues that the DG appears to be relying on the findings of dominance in August 2005, which it considers may no longer be valid. C&WG consider the market definition of August 2005 was broad and did not look at the distinction between on-island and off-island leased line markets. C&WG's view is that it is therefore necessary for the OUR to carry out a market analysis to assess this area.

Wave argue that a review of the previous relevant markets would be appropriate in light of the technological advances since 2005 (e.g. Skype and VoIP).

4.3 *Director General's Position*

The DG requested views from interested parties on changes in the relevant markets since his last dominance finding in 2005. The DG has a duty to ensure regulation is proportionate to Guernsey and does not therefore propose to conduct a major root and branch review of market definition and dominance unless evidence suggests this might be

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justified.

The OUR is aware of best practice in telecommunications regulation in jurisdictions such as those in the UK and other EU member states, but the DG is equally aware of the need to adopt such best practices only as long as they are appropriate to a communications industry of the size, characteristics and stage of liberalisation of that existing currently in the Bailiwick of Guernsey. The DG has, therefore, proceeded with what he considers to be a level of depth and detail of analysis that can be usefully undertaken on these markets, and with the levels of disaggregation that can be meaningfully applied. The DG's views on the likely development of competition in Guernsey is addressed later in this paper.

In early 2007 the DG issued a market questionnaire to all operators as part of his commitment set out in OUR 05/19 to collect market data on a regular basis to review the development of competition within the Bailiwick. The results of the data analysis of the responses from all licensed operators is summarized in Table 4.1 below.

Table 4.1 C&WG & OLOs Market Shares –Fixed Retail Services

Service	C&WG Share	OLO Share
Fixed No of Business Subscribers	97%	3%
Fixed No of Residential Subscribers	95%	5%
Call Minutes Originated – Business	91%	9%
Call Minutes Originated – Residential	99%	1%
Calls Revenue - Business	87%	13%
Calls Revenue – Residential	99%	1%
No. of On-Island Leased Lines	90%	10%
On-Island Leased Lines Revenue	77%	23%
No. of Off-Island Leased Lines	75%	25%
Off-Island Leased Lines Revenue	75%	25%
No. of On-Island LANS	95%	5%
On-Island LANS Revenue	92%	8%
No. of Off-Island LANS	88%	12%
Off-Island LANS Revenue	77%	23%

On the basis of market shares alone there is no reason to reject the position that C&WG is dominant in each individual market above.

The results of the analysis of the data for services in the wholesale fixed-line telecommunications market are also shown in Table 4.2 below.

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Table 4.2 C&WG & OLOs Market Shares –Fixed Wholesale Services

Service	C&WG Share	OLO Share
No. of On-Island Wholesale Leased Lines	100%	0%
On-Island Wholesale Leased Lines Revenue	100%	0%
No. of Off-Island Wholesale Leased Lines	100%	0%
Off-Island Leased Wholesale Lines Revenue	100%	0%
No. of minutes originated from other operators	97%	3%
No. of minutes transmitted for other operators	100%	0%
No. of minutes terminated for other operators	100%	0%
Wholesale broadband No. of subscriptions	100%	0%
Wholesale broadband access – Revenue	100%	0%

On the basis of market share alone, for each of the services above based on demand information provided to the DG, C&WG is dominant in each market individually and in the fixed wholesale-line market collectively.

Similarly retail mobile services are shown in Table 4.3.

Table 4.3 C&WG & OLOs Market Shares –Mobile Retail Services

	C&WG Share	OLO Share
No of Subscribers	79%	21%
Call Minutes Originated	78%	22%
Total Call Minutes Revenue	77%	23%
SMS /MMS Revenue	82%	18%

Turning to address the separate points raised by C&WG, each of these are addressed below.

- **Boundaries between markets is blurred due to convergence**

The DG is not aware that Sky or any other company is offering converged services within the Bailiwick and C&WG has not provided any evidence to support this view. The DG has looked at market evidence and finds little in the way of marketing literature or announcements by the competitors suggested by C&WG that they intend to compete with C&WG in providing converged services in Guernsey. If there are competitors of this nature, it is not apparent that they have the ability to reduce C&WG's market power to the extent suggested by C&WG. Based on the market analysis above C&WG have over 75% of the retail market share for each of the individual services shown in Table 4.1, with many of these showing market shares of over 90%. He does not therefore accept C&WG's statement that "*other more powerful players than C&WG and C&W plc are active in the converged market in Guernsey*". Further the DG remains unconvinced, based on the information before him, that such competition will develop over the timeframe of this price control such that it would markedly change the proposed findings.

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- **Market share erosion by off-island telecoms providers**

C&WG has suggested the DG examine market trends and consider the impact of providers such as Vonage, Skype and Corporate VOIP on the local market as it believes the market share that is now taken by such off-island telecoms providers is material and expected to grow at a rapid rate over the next price control period.

The DG has examined the current position in terms of market share and any evidence submitted by C&WG in support of this view. Market shares are presented in Tables 4.1 to 4.3 above. The size of these market shares does not support a view that C&WG's market position has been substantially weakened by the availability of such services to date.

In terms of implications for the future, specifically over the period of the next price control, the DG agrees such voice call services delivered over broadband are present in Guernsey and that customers use these services. In the case of residential customers, there is, however, little evidence to gauge the strength of this uptake in the market at present and C&WG has not presented any supporting evidence to substantiate such a view.

In the DG's view, when considering fixed voice call substitution through use of broadband, a material factor is the issue of voice quality available through these services. At present voice quality over services such as Skype or Vonage is of variable quality. There is no certainty these quality issues will diminish over the price control period, even with the availability of higher bandwidth and the introduction of next generation networks. Current indications are that in an NGN environment there will be differences in quality of voice calls between a managed voice call service, where quality standards are set contractually with the network provider, and an unmanaged voice call service, that must utilise residual capacity after demand for higher priority service capacity is met . In the latter case, quality is likely to be variable depending on network utilisation levels.

Any contractual agreement to support managed voice calls on C&WG's network therefore appears likely to provide C&WG with a means of substituting loss of revenues from traditional voice calls with those earned from managed voice call services. In the absence of better evidence to the contrary and given how these services are provided, it seems reasonable to assume the availability of this relatively new technology in Guernsey is largely complementary to existing voice call services and will remain so over the period of the price control.

In summary while the DG notes that developments have occurred in certain product markets since the findings of dominance in 2005, the DG has no compelling evidence that those developments are such that in those markets, competition could yet be considered as effective or potentially effective to the extent that C&WG's market dominance is eliminated over the period of the next price control.

- **Switching from fixed to mobile;**

C&WG maintain that convergence between fixed and mobile and, in particular, the

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increased inter-change of fixed and mobile devices for access and services by customers, will undermine C&WG's dominant position in a converged market over the price control period.

The DG's view is that whilst there is a global trend in customers switching from using fixed lines to mobile phones, the DG has seen little evidence of this in the Guernsey telecoms market and C&WG has not provided evidence on the extent of such behaviour within its own customer base.

However, in order to analyse this further, a sub section of the market is analysed, namely residential customer calls to landlines, where call charge data is readily available and the prospects for substitution appear as likely as other sub sections of the market. The DG has assessed the decision to use a mobile phone or a landline phone to make such calls. Assessment of residential landline-to-landline and mobile-to-landline calls is therefore made rather than access substitution, since it involves a lesser degree of change in terms of substitution when compared to access substitution[6].

Table 4.4 sets out some key price points for these voice calls using C&WG's residential landline and mobiles tariffs for peak periods.

Table 4.4 C&WG Key Price Points (ppm)[7]

Destination	**Sure home phone**	**10% increment**	**Sure mobile**
Local landlines	**4.8**	**5.3**	**10.0**
Jersey - fixed line	3.7	4.1	10.0
UK - fixed line	3.7	4.1	10.0

In the case of residential customers, on the assumption that substitution of landline calls for mobile calls to the home is materially influenced by the cost of calls, analysis of the difference between these charges highlights a key feature. The hypothetical monopolist test indicates that for calls to landlines, a small but significant and sustained price increase in landline voice call charges would remain some way short of current mobile voice call charges. On the basis of voice call charges to landlines, residential customers are unlikely to be indifferent between using their landline and a mobile phone. On this analysis, it is difficult to sustain an argument that these are economic substitutes within the same market.

[6] As an island economy reliant on international calls, possibly to a greater degree than most economies, exclusive reliance on mobile phone access for fixed line calls seems less likely given the scale of charges. Also, given the proportion of fixed line access in Guernsey a decision by residential customers to remove fixed line access from their homes on any significant scale over the next few years and rely exclusively on mobile phones requires a greater change than call substitution.

[7] Assessing choice as to whether a consumer makes a call from an existing landline or from an existing mobile.

While this analysis is of a sub-section of the market, there is little evidence presented to the DG to suggest this conclusion will not hold for all calls relevant to the substitution argument C&WG has proposed. The mobility premium means that mobile call charges are significantly higher than fixed line calls. This key element in the substitution argument remains whether residential or business calls are assessed. The DG therefore believes customers are unlikely to replace phone calls using residential fixed lines with calls from a mobile phone in the short to medium term (i.e. the duration of the price control). However, the DG will monitor the extent of convergence in the market with an annual market questionnaires sent to all operators.

- **Fixed access alternatives**

The emergence of fixed access alternatives such as wi-max is cited to support an argument that there is fixed access competition in Guernsey. C&WG's argument is that a change in market definition to one that encompasses both fixed and mobile services rather than placing them in separate markets, will materially reduce its market share and more accurately reflect its true economic market power in the provision of these telecoms services.

The DG is aware that viable fixed access alternatives are continuing to emerge (e.g. wimax). However at the current time taking into account the extent of the roll out of these types of network, these alternatives cannot be considered as offering any real competition to C&WG's market position within the Bailiwick and are unlikely to develop to such an extent over the duration of the next price control that there is a material change to this position.

Proposed Finding: Fixed Markets

C&WG have the only fixed-line voice telephony network in the Bailiwick, including exchange lines to retail customers. As in 2005 it remains the case that C&WG retains the only Bailiwick-wide fixed network and the large majority of retail customers.

Therefore on the basis of the evidence before him, the DG believes that the there is insufficient justification to warrant any changes from the previous market definitions, namely:

- the wholesale market in fixed-line telecommunications (which includes, inter alia, on and off island leased lines); and
- the retail market in fixed-line telecommunications.

Proposed Decision

The DG proposes to continue to find C&W Guernsey Limited dominant in the following markets: - wholesale fixed-line telecommunications market: - the retail fixed-line telecommunications market:

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Proposed Finding: Mobile Markets

As noted in the review of Mobile Termination Rates there are currently two mobile telecommunications markets:

- the wholesale mobile telecommunications market; and
- the retail mobile telecommunications market;

Following EU and UK regulatory practice, the DG is of the view that an analysis in the context of Guernsey will lead to the same conclusion as those for the EU and UK markets and does not intend to repeat these well known arguments here. He therefore proposes to find the operator of each mobile telecommunications network dominant in the provision of wholesale services on their own network.

With a competitor operating an alternative network, C&WG no longer has a monopoly in the retail mobile market. However the DG does not believe there has been sufficient market penetration by entrants to justify a departure from the previous conclusion that C&WG is dominant in the retail mobile market.

Proposed Decision

The DG proposes to find C&W Guernsey Limited dominant in the retail mobile telecommunications market and C&W Guernsey, Wave Telecom and Guernsey Airtel dominant in the wholesale mobile telecommunications market on their respective networks.

4.4 *The Need for a Price Control?*

Following on from the review of dominance and consideration of relevant markets was the question as to whether respondents believed there to be a need for price controls in those telecommunications markets where C&WG has a dominant position. Respondents were invited to explain and justify their reasons.

4.5 *Responses from the Consultation*

C&WG believe that incentive regulation has been successful around the world as a regulatory tool to initiate and support competition in the period following liberalisation in telecoms. C&WG emphasise that price caps were only designed to be a transitional measure to bridge the period through to the emergence of competitive markets. C&WG refer to:

- Austria, Belgium, Denmark, Finland, Germany, Greece, Norway and the UK as examples of where retail price cap regulation no longer exists; and
- Ireland, Netherlands and Spain where retail price caps are set at safeguard levels[8] and applied to only very basic landline services (e.g. connection and rental).

[8] i.e. Consumer Price Index (CPI”) -0% or CPI-CPI

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C&WG maintain that continued price regulation simply for the sake of price regulation will in fact damage rather than promote a competitive market. As a result C&WG believe that there needs to be a thorough market analysis which will support and verify its argument there is no longer any need for a price control in the Guernsey market – though C&WG had not actually based its argument on its own detailed market analysis.

In terms of the need for a price control, even if found dominant, C&WG maintain that the justification for incentive regulation set out in 2004 no longer apply namely:

- There is sufficient competition and market forces can protect customers' interests;
- C&WG does not behave as a monopoly operator and has been subject to competition since the market was liberalised in 2002;
- Two previous price controls will have eliminated supernormal profits and C&WG's desire to maximise profits will have eliminated inefficient costs;
- There is no longer any cross-subsidisation between price controlled products;
- Vulnerable users are protected through the Telephone Assistance Scheme and therefore do not need protection through a price control; and
- A price control restricts the return on investment to the cost of capital and a 12% return is not attractive compared to what is achievable in other jurisdictions in which C&W operates.

Therefore for these reasons C&WG believe that even if found dominant there is no need for any further price control on the company.

Wave also took the view that even if C&WG is found dominant in a retail market a retail price control may no longer be necessary provided that network access and wholesale markets are working effectively to enable OLOs to compete in the retail market. Wave believed the OUR should concentrate on ensuring there was a level playing field in the wholesale market to facilitate competition at the retail level.

4.6 *Director General's Position*

The DG has considered C&WG's case for the removal of retail price controls across the board in Guernsey and believes C&WG's benchmarks and examples are selective[9]. The OUR has reviewed the use of price controls by NRAs in thirty other jurisdictions as (shown in Annex A). Retail price controls do not apply in 13 international jurisdictions and in two of those jurisdictions (Bahrain and UAE) the dominant fixed operator has to submit all price changes to the TRA for approval. This type of control could in fact be considered as a more onerous form of price control. The other jurisdictions resemble Guernsey in that a retail price control exists at the current time.

[9] Jurisdictions referred to by C&WG: Austria, Belgium Denmark, Finland, Greece, Germany, Norway, UK, Ireland, Netherlands and Spain.

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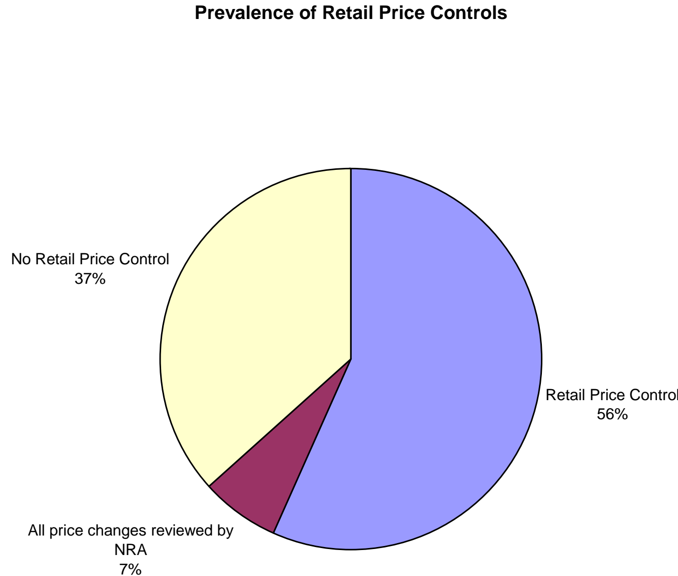
Figure 4.1 Prevalence of Retail Price Controls



It is important therefore to identify the characteristics of the different markets which explain why the NRA in each of these 11 jurisdictions[10] have not imposed a retail price control on the dominant fixed operator.

Local Loop Unbundling ("LLU") is a key regulatory tool that has been introduced to promote and facilitate competition in liberalized telecommunications markets (see Annex F). LLU has been introduced in each of the jurisdictions (apart from the Isle of Man) where the NRA has not imposed a retail price control.

Carrier Pre Selection (CPS) is another mechanism for promoting competition at the retail level and again in this regard eight of the jurisdictions have introduced CPS in their fixed telecom market[11]. However Wholesale Line Rental as a competition enabling tool is less widespread than CPS in its introduction across these jurisdictions.

C&WG argue that retail price controls were designed as a transitional measure to bridge the move from a monopoly to competitive market. C&WG provide a list of jurisdictions in which retail price controls are either no longer applied (eight jurisdictions) or are only applied as safeguard controls (three jurisdictions). The characteristics of these 11 jurisdictions compared against Guernsey are shown in Table 4.4 below.

[10] Austria, Belgium, Denmark, Finland, Germany Hong Kong, Isle of Man, Luxembourg, Norway, Sweden and the UK.
[11] The Isle of Man has not introduced CPS at the current time, although it is required within Isle of Man telecoms licences.

Table 4.5 Comparative Analysis of Market Characteristics of C&WG's Highlighted Jurisdictions[12]

Jurisdiction	WLR	NP	LLU	CPS	Year of Liberalisation	Market Share
No Retail Price Control						
Austria	No	Yes	Yes	Yes	1998	58%
Belgium	Yes[13]	Yes	Yes	Yes	1997	64%
Denmark	Yes	Yes	Yes	Yes	1996	65%
Finland	No	Yes	Yes	Yes	1993	96%
Greece	Yes	Yes	Yes	Yes	1998	82%
Germany	No	Yes	Yes	Yes	1988	44%
Norway	Yes	Yes	Yes	Yes	1998	N/a
UK	Yes	Yes	Yes	Yes	1984	48%
Safeguard Retail Price Control						
Ireland	Yes	Yes	Yes	Yes	1998	74%
Netherlands	Yes	Yes	Yes	Yes	1997	65%
Spain	Yes[14]	Yes	Yes	Yes	1998	69%
Guernsey	*NO*	*NO*	*NO*	*NO*	*2002*	

The DG agrees that retail price controls should reflect the stage of development in the telecoms market. It is evident from the above that the 11 jurisdictions referred to by C&WG have in fact been liberalised for a longer period of time than in Guernsey, while the alternative in terms of access to facilities and infrastructure that are available to competitors in these markets are more extensive. For these reasons the DG does not regard the comparators used by C&WG as being appropriate in a Guernsey context.

As markets become more competitive (e.g. through the introduction of competition promoting measures such as WLR, NP, LLU and CPS) the need for retail price controls is reduced. Therefore in recognition of the growing competition in on-island leased lines he proposes to roll back regulation at the retail level and instead introduce a wholesale price control for on-island leased lines. The DG proposes to maintain price controls at retail level for existing services (but excluding on-island leased lines).

Taking the remaining arguments put forward by C&WG, the DG's position in turn is set out below:

[12] OUR research (WLR= Wholesale Line Rental, NP = Number Portability, LLU = Local Loop Unbundling, CPS= Carrier Pre Selection)
[13] Due to be implemented.
[14] But not yet implemented

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- **There is sufficient competition and market forces can protect customers' interests;**

The market analysis presented in section 4.3 above does not, in the DG's view, demonstrate that the market is sufficiently competitive to protect consumers' interests to allow the DG to remove C&WG from any form of retail price control.

- **C&WG does not behave as a monopoly operator and has been subject to competition since the market was liberalised in 2002;**

C&WG has complied with the OUR's previous price controls which has allowed C&WG to rebalance its tariffs. Since 2002 C&WG has not been a monopoly operator in the fixed telecoms market, but has had a position of dominance and has been subject to independent economic regulation to prevent any abuse of that market power. Also noted above, it is the DG's view that the level of competition in the market is currently not sufficient to protect consumers' interests.

- **Two previous price controls will have eliminated supernormal profits and C&WG's desire to maximise profits will have eliminated inefficient costs;**

Profit maximising behaviour does not just depend upon eliminating inefficient costs. A dominant operator may restrict supply and may price excessively, if allowed to do so in order to maximise profits. The use of price controls for dominant operators allows efficiency gains to be shared between the shareholder and customers.

- **There is no longer any cross-subsidisation between price controlled products;**

The DG notes in C&WG's business plan the company is still proposing significant increases in exchange line rental charges to align the prices with the underlying costs, which is inconsistent with the argument made here.

- **Vulnerable users are protected through the Telephone Assistance Scheme and therefore do not need protection through a price control;**

The DG welcomed the introduction of the TAS to protect vulnerable users but believes price controls are still necessary until such time as retail competition is effective to protect all consumers' interests from a dominant operator.

- **A price control restricts the return on investment to the cost of capital and a 12% return is not attractive compared to what is achievable in other jurisdictions in which C&W operates.**

The DG has given careful consideration as to the appropriate cost of capital as basis for allowing C&WG's shareholder a reasonable return on its investment within the Bailiwick. This is set out in section 5.5 below and C&WG and all interested parties are invited to comment on this proposal.

Having given due consideration to the arguments raised by respondents to the issues in the consultation paper the DG believes it remains appropriate to apply price controls for certain of C&WG's retail products and to roll-back regulation to the wholesale level for on-island leased lines taking into account the level of competition in the various markets

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described in section 4.3.

Proposed Decision

The DG proposes to impose a price control on certain retail and wholesale services provided by C&W Guernsey.

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5. OUR's Approach to the Price Control

5.1 *Determining Allowable Revenue*

Background

In the consultation paper the DG indicated that the OUR intended to perform its own analysis and financial/economic modelling exercise using, amongst other information sources, C&WG's confidential PCBP which was submitted in support of its proposals.

The DG indicated that his consideration of the efficient operating costs of the company's price-controlled activities would comprise:

- obtaining the best information possible on C&WG's forecast operating costs for its different services and assessing the reasonableness of any forecast efficiency savings, hence ensuring that the company is not passing on inefficient operating costs to consumers in its dominant markets;

- assessing C&WG's future capital investment programme to ensure that the capital expenditure is economically justifiable;

- assessing the reasonableness of the company's volume forecasts, taking into account how demand may change in response to price changes;

- rolling forward the MAR[15] adjusted Regulatory Asset Base ("RAB") from the previous price control; and

- reaching a decision regarding C&WG's cost of capital to ensure that the company earns a reasonable return on its investment.

Hence the DG's determination on C&WG's price controlled activities would be set such that if the company is managed efficiently, it can expect to cover all its costs, including the costs of its capital employed, over the period of the control. The DG therefore proposes to set 'X' factors on the basis of forecasts which trend towards allowing C&WG, if efficiently operated, to earn a reasonable return at the end of the price control period.

The DG invited interested parties to comment on this proposed approach.

Responses to the Consultation

C&WG comment that the approach proposed by the DG seems reasonable and has proved effective in the past. However C&WG express some concern about the process believing the market analysis should be completed prior to the detailed market review.

[15] Market to Asset Ratio adjustment to reflect the price paid for the assets at privatisation. This issue is covered in depth in OUR documents 04/11, 05/12 and 05/19.

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Wave welcome the approach proposed by the DG and agree that the incumbent operator should be allowed to make a fair return on its investment.

DG's Position

The DG welcomes the general support for the OUR's approach and methodology.

Price controls for dominant operators are forward looking i.e. they control price levels over a number of years into the future from a specified starting point. C&WG have prepared and submitted to the OUR a forward looking business plan which forecasts a range of key inputs over the lifespan of the control, including trends in underlying costs (operating costs and capital investment programme), potential efficiency gains and the effect of competition on C&WG's market shares for products.

As on previous occasions the OUR has undertaken its own economic and financial modelling, with assistance from its expert advisers, to calculate the "allowed revenues" for the price controlled part of the regulated business over the lifetime of the control. The level of allowed revenue in turn determines the level of the price control (the "X" factor in the control). The objective is to set the control at a level such that if the regulated firm operates efficiently, it can expect to cover its costs, including earning a reasonable return on the capital employed (i.e. its cost of capital), over the period of the control. The level of the control, in conjunction with the composition of the basket of services, will then determine the upper limits on prices that may be charged over the lifetime of the control and the degree of flexibility that the regulated firm has in setting those prices.

Proposed Decision

The DG proposes to set prices such that C&W Guernsey earns a reasonable return on its price controlled services where the reasonable return is equal to the company's Weighted Average Cost of Capital.

The DG's consideration of these inputs to determining C&WG's allowable revenue are summarised in sections:

- 5.2 - operating costs;
- 5.3 - capital expenditure;
- 5.4 - demand forecasts;
- 5.5 - cost of capital; and
- 5.6 – CCA adjustments.

Whilst these sections summarise the DG's consideration of these factors and inputs to the price control more detailed information is provided in the various annexes attached to this report. It should be noted that some of those annexes are confidential and are being provided only to C&WG. However as much information as the DG considers reasonable has been included within the publicly available document.

In addition section 5.6 sets out the DG's position regarding the Current Cost Accounting

("CCA") calculations used in C&WG's model and an amendment to the calculations.

5.2 *Opex Assumptions*

The DG's decision on the appropriate opex to be included with C&WG's allowable revenue has been based on a detailed review by the DG's expert advisers of the company's business plan and forecasts. Frontier Economics' detailed report is attached as Annex C of this draft decision and has been provided in confidence only to C&WG as it contains commercially confidential information.

Taking into account all the information provided, this paper presents recommendations for the forecast levels of C&WG operating costs to include in the OUR's price cap model. For the purposes of this paper, C&WG's operating costs have been divided into three groups:

- Overhead expenditures – costs that cannot be directly linked to products (for example, staff costs and network maintenance);
- Intra-company payments – charges paid and received by C&WG to and from other Cable & Wireless businesses; and
- Direct operating costs - costs that are directly related to products (for example, interconnection costs).

The following table lists the C&WG opex cost categories that were included in each group. Together, these account for just under 90% of the operating costs in C&WG's price cap business plan.

Table 5.1 Cost Categories

Overhead expenditures	Intra-company payments	Direct operating costs
Opx01 Staff costs - network	OpX03 – Management fee payable	OpX16 – International interconnect
Opx02 Staff costs – non-network	OpX12 – Royalty branding fee payable	OpX17 – Leased circuit international (retail)
OpX08 Operating lease rentals – property	OpX15 – Intercompany operational recharges receivable	OpX18 National interconnect
OpX10 IT costs - other		
OpX20 Other network and technical costs		
OpX21 – Other non network costs		

<u>Overheads</u>

Based on the analysis presented in Annex C the DG intends to adjust C&WG's forecast

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staff costs (OpX01 and 02) using the mid-point of the range based on taking C&WG's own forecast as the upper bound, with the lower bound based on a continued increase in the number of main lines per employee of 2.8% per annum, in line with recent C&WG performance.

The DG does not intend to make any adjustments to C&WG's OpX08 (Operating lease rentals property) forecasts.

C&WG have forecast significant investment in IT over the Business Plan and justified this on the basis of "future cost efficiencies" but these forecast efficiencies have not been included in the company's forecast operating costs. Based on Frontiers' analysis the DG intends to adjust IT costs (OpX10) using the mid-point of the range with an upper bound based on C&WG's forecast figures and a lower bound assuming that IT costs remain constant in real terms at 2007/08 levels.

As with IT costs the DG concurs that as a minimum the company should expect to benefit from operational cost savings from its capex investment. Based on Frontiers' analysis the DG intends to adjust Other non-network and technical costs (OpX20) using the mid-point of the range with an upper bound based on C&WG's forecast figures and a lower bound assuming that other non-network and technical costs will remain constant in nominal terms at 2007/08 levels.

The DG does not intend to make any adjustments to C&WG's OpX21 (Other non-network) forecasts.

Intra-Company Payments

Based on the analysis and recommendations set out in the confidential annex the DG proposes to accept C&WG's forecasts for both OpX03 (Management fee payable[16]) and OpX15 (Inter-company operational recharges receivable). The DG is accepting the proposed as the figures cancel each other out, but any increase in the management fee at some point in the future would be given very careful consideration to ensure that this is not being used as a means of expropriating profit by the parent company.

The DG however does not accept C&WG's proposals for OpX12 (Royalty Branding Fee). As noted by Frontier Economics, the DG also considers it reasonable for the price cap model to include some costs related to the development and maintenance of C&WG's brand, but from 2007/08 C&WG incur costs for the C&W royalty brand whilst also re-branding as "Sure". The DG is unconvinced of the benefits that accrue to customers of multiple brands and consequently intends to assume only 50% of the OpX15 costs forecasts as an input to derive the company's allowable revenue.

Direct Operating Costs

The level of direct operating expenditures will depend on:

[16] Fees charged by C&W International HQ for providing Group policy, governance and local business strategic guidance to all businesses within the C&W International Group.

- the total volume of C&WG outbound traffic to other networks; and
- the relevant interconnection rates.

This section refers to any adjustments to C&WG's forecasts of the unit cost trends for the relevant interconnection services. These unit costs are then applied to the traffic volumes which are described in section 5.4 below.

The DG proposes to make no adjustments to C&WG's unit cost forecasts for OpX17 and OpX18. However based on Frontier Economics' analysis of the trends in the relevant rates in the UK, and in the absence of any evidence from C&WG for a reversal of these trends, he considers it reasonable to assume a decline of 5.2% per year in the average termination payment for international interconnection (OpX16). This is based on the assumption that average international interconnection charges are, in practice, likely to fall rather than stay constant. This would imply that average interconnection rates for calls terminating outside Guernsey will fall by more than 5.2% per year.

Proposed Decision

The DG proposes to reduce C&W Guernsey Limited's proposals for opex as set out in section 5.2 and intends to use these revised opex forecasts as an input for determining C&W Guernsey's allowable revenue.

Allocation of Costs

In addition to the opex forecasts themselves the allocation of common costs between price controlled and non-price controlled is a key element of the price cap model. If this allocation is incorrect, it could result in too much cost being recovered from price cap services, thus allowing C&WG to benefit from a relatively lower price cap (i.e., a smaller X factor), whilst enabling it to compete aggressively in the provision of competitive, non-price-controlled services. The methodology used in C&WG's business plan and accompanying model is particularly critical for the forecast period, given the very different growth rates for regulated services and unregulated services such as broadband, and also the likely changes in the underlying cost structure of the business due to the introduction of NGN technology.

Frontier Economics have considered this area of inputs to the model and have identified two major issues, namely:

- the use of static cost allocations throughout the forecast period; and
- mapping NGN components to defined activities.

The DG proposes to amend the cost allocation to allow for dynamic changes in volumes between price-controlled and non-price controlled services and for also allocating costs associated with the proposed NGN expenditure (this will also have implications for the proposed capex cost allocation as well). Annex D sets out in detail how the DG has made these adjustments in accordance with the recommendations from Frontier Economics.

Proposed Decision

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The DG proposes to adjust the cost allocation to price controlled and non-price controlled services on a dynamic basis and for also mapping NGN components to defined activities.

5.3 *Capex Assumptions*

Capex is an important input into the calculation of C&WG's allowable revenue under the price control and has been assessed in detail by the DG and his advisors.

The DG retained Frontier Economics supported by Anodus Consulting Limited ("Anodus") to provide an independent assessment of C&WG's capex forecasts. A copy of the consultants' independent report is attached as Annex E of this draft decision document. Annex E contains commercially confidential information and has been provided solely to C&WG for comment. This section however summarises the consultants' findings and recommendations.

The DG has reviewed the relevant individual components of C&WG's capex forecasts and taken one of two actions either:

- for those elements where there is no significant reason to question C&WG's capex forecast, C&WG's forecast has been accepted as reasonable; or
- for those elements or plans where there are reasons to question C&WG's forecast of capex and/or C&WG have not fully justified its forecast, the OUR has assumed alternative capex levels.

Based on the consultants' conclusions the DG is minded to reduce the company's capex forecasts over the period 2007/08 to 2012/13 by around 18%.

The net effect of the adjustments to C&WG's capex is to reduce the total amount forecast to be spent between 2007/08 to 2012/13 by 18.3%. Annex E contains a detailed explanation of the DG's position, based on the consultants' recommendations regarding the company's capex assumptions and the assumptions that have been made to inform the DG's proposed decision. This Annex contains confidential information and has therefore been provided solely to C&WG.

Proposed Decision

The DG proposes to reduce C&W Guernsey Limited's proposals for capex by 18.3% over the period 2007/08 to 2012/13 in line with the justification contained in Annex E (confidential to C&WG). The DG intends to use this revised capex plan for determining allowable revenue under the price control.

As noted above and in section 5.1, forecasts of capital expenditure is a key element in deriving a price control. Indeed, any differences over the course of the control between the forecast level of expenditure and actual capital spend, can have significant

implications for the regulated firm.

As part of the current capex review the consultants noted that C&WG had not carried out the investment in its NGN programme that was forecast at the time of the last price control review (back in 2004/05).

In 2004/05 the level of the price cap was dependent on a projection of C&WG's cost base for the cap period. This itself was based on a model of C&WG's RAB (i.e., the value of assets used in the provision of regulated services and on which C&WG should be able to earn a reasonable return – its WACC). The forecast of C&WG's RAB for the last price control was based on a number of factors, namely:

- the value of C&WG's existing assets at the start of the price control (including a Market to Asset Ratio adjustment);
- forecast depreciation charges for the period of the control (including on new investment);
- underlying asset price changes; and
- projections of capital expenditure for the period of the price control.

Therefore forecast capital expenditure clearly impacts a price control through the RAB. That is, new assets, once capitalised, would enter the RAB. All other things the same, the higher the forecasted expenditure, the higher will be the forecast of the RAB over the course of the price control period. In addition, the regulated firm (C&WG in this case) would then be able to earn a return on these new assets, including depreciation charges on the assets. As such, the level of capital expenditure forecast at the time of the last price control review will have influenced the overall level of the cap and the absolute monetary return that C&WG could earn under the cap.

If, however, the regulated firm postpones investment, thus not actually investing the amount forecasted at the time the price cap was set, its return is likely to differ from the reasonable return factored into the price cap. In the extreme, if the regulated firm does not carry out any investment, its regulatory asset base will actually be lower than that forecast in the price cap determination (as a result of depreciation on existing assets) and it will have had an opportunity to earn a return in excess of its cost of capital. This is illustrated in Figure 5.1. Here, the price cap is set to give the regulated firm the opportunity to earn revenue equal to the red line. Given the forecast RAB (which includes a significant element of additional capital expenditure), this would be sufficient for the regulated firm to earn a return in line with its cost of capital. However, the regulated firm actually chooses not to invest in those projects that were the basis of the capital expenditure forecast. As a result, its RAB does not increase as forecast. Therefore, given that the firm's revenue requirement for the price control period was set on the assumption that the capital expenditure would be incurred (and its revenue potential is not affected by its underinvestment), it is able to earn a return in excess of its cost of capital.

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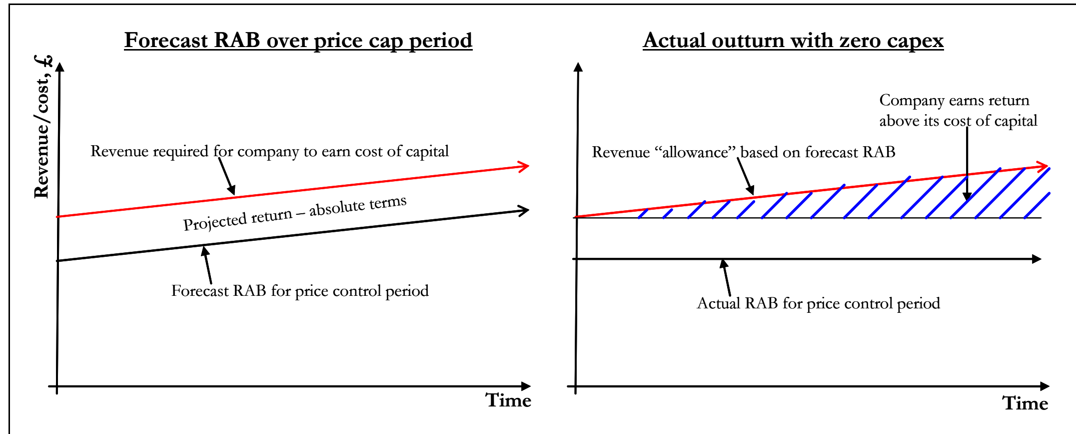
Figure 5.1: Impact of Underinvestment on Returns



The DG does not believe consumers should be penalised by paying higher than necessary prices when C&WG has not invested in its RAB to the extent it was forecast to in the previous price control. If the DG did not adjust for this, C&WG would be incentivised to either defer investment for as long as possible or inflate capex figures in its Business Plan.

Proposed Decision

The DG proposes to clawback the portion of the prices that were allowed for in C&WG's previous price control as the company was allowed a return on capital on Regulatory Asset Base which assumed investment by the company, but which in fact did not take place.

Frontier Economics proposed a methodology which has estimated the revenue requirement assigned to the original NGN capex programme in C&WG's 2004 proposals and clawed back this over-recovery against C&WG's CAPX12 category (Switch). That over-recovery then gets apportioned against the services to which CPAX12 is spread. While this approach may reduce C&WG's ability to earn its cost of capital over the next price control period, it should not affect C&WG's ability to earn its cost of capital over the life time of the assets concerned. As a result, it should not affect C&WG's ability to fund its investment. Without such an adjustment, C&WG could earn an excess return, not related to efficiency savings, but instead related to it not having carried out investments which customers have, in part, financed. The full detailed application of this methodology is contained in the confidential version of this paper provided to C&WG. However Annex D of this paper contains a non-confidential version of this Annex.

Proposed Decision

The DG proposes to reduce the net replacement cost and depreciation charges for CAPX12 within the price control model by £3,070,000 and £828,000 respectively.

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5.4 *Demand Assumptions*

C&WG's business plan, submitted to the OUR as part of its review of C&WG's retail price control, included forecasts (up to 2012-13) for the development of the telecommunications markets in the Bailiwick, encompassing both the development of the overall markets and C&WG's market share. As part of its price control review, the OUR retained Frontier Economics to provide an independent assessment of these forecasts. A copy of Frontier Economics' report is included in full as Annex E of this draft decision. As it contains commercially confidential information it has been provided only to C&WG.

The market size and market share forecasts form an integral part of the business plan and have a significant impact on the outcome (i.e. the return on capital employed for the regulatory products). It is therefore important to ensure that the forecasts are reasonable and reflect the key characteristics of the Guernsey economy. Frontier Economics have therefore adopted the following process for assessing C&WG's demand forecasts:

- reviewed the information provided by C&WG;
- requested further explanation from C&WG on a number of aspects of its business plan forecasts;
- compared some of the key indicators that are presented in the business plan with similar indicators in other countries and recent actual trends in Guernsey (including a comparison with market data forecast by C&WG at the time of the last price control review); and
- where its forecasts of future demand differed from current trends, Frontier Economics considered the explanations of C&WG for these changes.

Demand forecasts are an important element for the setting of a forward-looking price control as they affect not only revenue but also drive direct costs. Based on Frontier Economics' independent assessment of the proposals the DG will adjust the market size and market share assumptions within the model as set out in Table 5.2 below.

Table 5.2: Summary DG's Main Market Assumptions for 2010/11

As noted above C&WG's forecast direct opex costs will also be determined largely by C&WG's demand forecasts.

[17] Calls to ISPs (products CP08 and CP09) are assumed to fall to zero by 2012-13. Whilst the DG is prepared to accept this assumption in the business plan and model, the possible withdrawal of this service will be subject to detailed regulatory scrutiny.

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Proposed Decision

The DG proposes to amend C&W Guernsey Limited's demand forecasts as set out in Table 5.2 above. The DG intends to use these revised forecasts to derive both direct opex and calculated revenue within the allowable revenue estimates.

5.5 *Cost of Capital*

Background

In the previous price control the DG applied a single Weighted Average Cost of Capital ("WACC") for C&WG's telecoms business (derived from the Capital Asset Pricing Model ("CAPM")) which was applied to the company's Regulatory Asset Base ("RAB"). The inputs to the formulae produced pre-tax nominal WACC of between 10.2% and 13.7%. For the 2005-2008 price control the DG assumed the mid-point of 12.0%.

In the recent consultation paper the DG invited interested parties to comment on the approach and the input to the WACC formulae to inform him of C&WG's cost of capital for the fixed telecommunications price control.

Responses to the Consultation

C&WG maintain that a WACC derived from historic figures will not reflect the fact that C&WG is planning to roll out its Next Generation Network ("NGN") which it considers to be a high risk investment due primarily to regulatory uncertainty. Consequently CW&G believe that higher risk factors should be included in the WACC calculation.

Wave on the other hand supports the DG's approach but questions whether a small company premium is appropriate in light of the C&W structure / ownership.

DG's Position

The DG notes that in C&WG's previous Business Plan 2003/04 to 2009/10 (which was submitted in November 2004) one of the key objectives of the company's capital expenditure plan over that period was to modernize operations through the implementation of an NGN and up to date IT and billing platforms. During the 2004/05 consultation the DG notes that C&WG was proposing a cost of capital of 12.6% for a price control period which would have covered its NGN capex plans.

The DG is also proposing to apply two cost of capitals to C&WG's regulated business producing one figure for the C&WG's retail business and one for its wholesale leased line business. Previously the OUR has only considered price controls in the form of RPI-X for C&WG's retail business, but on this occasion he is proposing a wholesale price control as well. The single estimate of WACC was an approach that was adopted by Ofcom, and its predecessor Oftel in the UK, as others have noted this approach was problematic as it would provide returns to BT in the regulated sector equal to the group cost of capital which reflects the average risk profile of all of BT's businesses. Put simply this would enable the regulated firm to earn excessive returns in the safest and least contestable parts of its business. Therefore the DG proposes to follow Ofcom and

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deaverage the beta (i.e. company specific risk) of the cost of capital for the most entrenched monopoly part of C&WG's business (its access network).

The underlying assumptions which have informed the DG's consideration of the appropriate WACC for C&WG are set out in detail in Annex A.

Proposed Decision

The DG proposes to use as the cost of capital in setting a price control for C&W Guernsey Limited a pre tax nominal WACC of 11.6% for C&WG's retail business and 10.5% for its wholesale leased line business.

5.6 *Current Cost Accounting*

The C&WG price cap model is based on a current cost accounting ("CCA") approach, where the gross value of each asset class is revalued to current costs based on external price indices determined by C&WG. It furthermore applies the principle of financial capital maintenance ("FCM"), where for any asset the capital charges recognised in the calculation of profitability in a financial period fully reflect the difference in (net) valuation of the asset between opening and closing.

On this basis, C&WG's current cost asset valuation links into the price cap model in two places:

- a current cost adjustment to depreciation; and
- the net replacement cost of assets (NRC).

The current cost adjustment to depreciation is carried through the model in the same manner as historic cost depreciation and, as such, affects the forecast return ("EBIT") that C&WG earns on each product in each year of the model. It in turn picks up two factors:

- supplementary depreciation, that is, the difference between depreciation on the historic cost of assets and depreciation based on the current cost of assets; and
- net holding gains/losses, that is, any holding gains or losses arising from changes in the value of assets.

In each year of the model, the mean net replacement cost of assets, together with an estimate of working capital, forms the capital employed over which C&WG's Return on Capital Employed ("ROCE") is calculated. All other things the same, the higher is capital employed for a given level of revenue, the lower will be C&WG's ROCE.

C&WG calculated a forecast of Gross Replacement Cost (GRC) for each asset class (capex category) included in the price cap model. This was used, in combination with estimates of HCA depreciation and Net Book Value, to calculate the CCA adjustment and

NRC using the “roll forwards” method.

However, a review of C&WG’s calculation of the CCA adjustment and NRC revealed that a number of miscalculations appear to have been made in the determination of each. This resulted in an apparent overestimate of NRC and a series of miscalculations of current cost adjustments. Together, these led to the price cap model not forecasting accurately the financial performance of C&WG. The DG’s draft decision has therefore been based on revised calculation of the appropriate CCA inputs.

In particular (and without limitation), the following issues were noted in C&WG’s original CCA calculations:

- **Asset disposals were accounted for as holding losses**.

  Holding gains (and losses) should reflect underlying trends in the price of the assets under consideration. When calculating the current cost of an asset’s gross value, the gross holding gain (loss) can be calculated as the balancing figure between GRC closing and GRC opening, additions, disposals and write-downs. C&WG assumed that assets were removed from the books in the year they became fully depreciated but failed to take this into account when calculating gross holding losses. As such, the decline in total GRC for an asset class resulting from forecast disposals was attributed to a holding loss on the value of those assets, when it should not have been.

- **Closing values were not “rolled-forward” to become the opening values for the following year**.

  That is, in C&WG’s CCA calculations, the closing balance of accumulated depreciation (and hence NRC) in each year was not equal to the opening balance in the following year. This is contrary to the principle of rolling forward CCA balances.[18]

- **Holding gains were considered to be a cost and so added to the “CCA adjustment”**.

  C&WG has calculated the CCA adjustment as “supplementary depreciation + (net) holding gains”. As such, any underlying increases in asset values, which, in turn, generate net holding gains, are treated as an increase in C&WG’s cost base for the year in which they occur. Under FCM, holding gains reduce costs whilst holding losses increase costs. As such, when calculating the CCA adjustment, a holding gain should be subtracted from supplementary depreciation (with, in the opposite scenario, net holding losses added to supplementary depreciation).[19]

[18] See, for example, Annex 1of BT’s Detailed Valuation Methodology, 2006/07: http://www.btplc.com/Thegroup/Regulatoryinformation/Financialstatements/2007/DetailedValuationMethodology.pdf.

[19] See, for example, BT’s Detailed Valuation Methodology, 2006/07: http://www.btplc.com/Thegroup/Regulatoryinformation/Financialstatements/2007/DetailedValuationMethodology.pdf.

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Given these, it has been necessary to derive revised CCA asset values for the price cap business model. Given data provided by C&WG, a revised forecast of CCA valuations and charges has therefore been developed for each individual asset, with assets then grouped into the capex categories included in the model[20]. Such an approach produces a more accurate result (compared to the C&WG methodology which applied a single "average" price change across the whole asset class) and is less prone to calculation errors.

Proposed Decision

The DG proposes to correct C&W Guernsey's CCA calculations as outlined in section 5.6 above.

[20] The price index for each asset group was, in the revised approach, applied to each individual asset, given information on its acquisition date. Where necessary, C&WG's price indices have been extrapolated backwards to determine estimated index values in the year of acquisition. Such extrapolation has been based on the Compound Annual Growth Rate for each index, as determined from C&WG data.

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6. Scope, Structure and Duration of Price Control

6.1 *Scope of the Price Control*

Background

In the previous price control the DG decided that:

- new services (i.e. totally new services and not simply new products within an existing family of products) introduced by C&WG since 2002 were excluded from a new price control;
- mobile services were excluded from the second price control;
- fixed to mobile calls were included within the new price control; and
- that all the services within Guernsey Telecoms' price control in 2002 (which was inherited by C&WG) within the new price control with the exception of C&WG's DQ service should also be included.

The DG anticipated that a similar line of reasoning would apply to any future price control pending any assessment of market dominance discussed earlier. In the consultation paper he proposed that, depending on any dominance finding, it might be appropriate for any future retail price control to include C&WG's off-island retail products within a safety retail price cap and introducing a wholesale price cap for the company's on-island leased lines. This approach would promote greater efficiency at the wholesale level and allow operators to compete efficiently in the retail on-island leased line market. This would be consistent with the DG's desire to move regulation to those parts of the market where it is most required and to allow retail competition where possible to develop without undue regulatory oversight. The DG invited respondents to comment on the proposed approach.

Responses

C&WG expressed concern that the DG's proposed approach only contemplated existing market definitions and that it failed to take account of the changed, dynamic and converging market in which telecommunications services are being provided. Despite this C&WG supported the DG's proposal to exclude new services.

C&WG also supported the proposal that on-island wholesale leased lines should be subject to a wholesale price cap (subject to a finding of dominance) and that retail on-island leased lines would be excluded from the price control regime.

In contrast Wave believed leased lines should be excluded from any price control and the OUR should focus on the quality squeeze issues that it believes currently need to be addressed in the market.

DG's Position

The DG notes C&WG's concerns about existing market definitions. Despite these concerns, C&WG has not availed itself of the opportunity to submit its own proposals on this matter.

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The DG is aware of the issues and concerns relating to non-price terms and conditions of wholesale leased lines and intends to conduct a detailed investigation into this area. However the the DG is of the view that the price controls of leased lines at a wholesale level will, facilitate competition and benefit the market more generally.

6.2 *Structure of the Price Control*

Background

In 2005 the DG applied a retail price control of RPI-1.7% to C&WG through the use of four separate baskets[21] with the following individual Xs and comprising the following separate products.

Basket 1: Main Basket:	**RPI + 2%**[22]
Basket 2: Leased Lines:	**RPI-16%**[23]
Basket 3: Exchange Line Rental:	**RPI+10%**[24]
Basket 4: Local Calls:	**RPI-14%**[25]

Pending any new findings of dominance and in particular the actual scope of the price control the DG anticipated continuing to rely on the use of baskets of products to provide C&WG the flexibility in adjusting its price within an overall constraint on its pricing behaviour. The DG invited interested parties to comment on the overall structure (e.g. the use of baskets) for any future price control of C&WG's services.

Responses

C&WG reiterated its concern that the DG's proposed approach contemplated only existing market definitions. C&WG maintain that the Guernsey telecommunications market, in its widest sense is not in transition (i.e. is now effectively liberalised with sustainable and effective competition) and there is therefore no need for a future price control. However in the event that a price control is appropriate, C&WG concurred with the view that the use of baskets would be appropriate. C&WG proposed the following baskets in its Business Plan submitted with its tariff application:

- Basket 1: Exchange line connection, rental and ISDN services;
- Basket 2: Fixed Line to:
  - Local geographic and
  - Guernsey Mobiles.
- Basket 3: Fixed line calls to:
  - Other mobiles;

[21] The Price Control of RPI-1.7% represents a combined X for the four separate baskets weighted by the forecast revenue in each basket over the price control period.
[22] i.e. changes in prices of this basket shall not exceed RPI +2 %.
[23] Changes in prices of this basket are subject to a reduction in each relevant period which shall be at least equal to RPI - 16%.
[24] Changes in the price of this basket shall not exceed RPI + 10%
[25] Changes in the price of this basket are subject to a reduction in each relevant period which shall be at least equal to RPI -14%

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    - Local ISPs;
    - Non-geographic at local rates;
    - Jersey;
    - National;
    - International; and
    - Public Payphones.
- Basket 4: On-Island Wholesale & Retail Leased Lines including Wholesale portion of on-island leased lines;
- Basket 5: Off-Island Wholesale Leased Lines;
- Basket 6: Off-Island Retail Leased lInes.

Wave had no comment on the structure of any price control and reiterated its view that the future price control of C&WG's retail services will be unnecessary as competition is evident in those markets.

DG's Position

The DG welcomes the general support for the use of baskets in principle. After careful consideration of C&WG's proposals he believes it is appropriate to broadly maintain the previous price control baskets with the disaggregation of leased lines to Retail Off Island and Wholesale On Island.

The "X's" for each of these five baskets based on the assumptions and methodology set out in section 5 and the earlier review of leased lines[26], together with the composition of these baskets are set out below:

- Basket 1 - Exchange Line Rental: RPI+5%
    - Exchange line.

- Basket 2: Local Calls Basket : RPI-12.5%
    - Fixed Line local geographic calls;

- Basket 3: Main Basket : RPI-4%
    - Fixed Line local ISP calls;
    - Fixed Line non-geographic calls charged at local rate;
    - Fixed Line Jersey and National calls;
    - Fixed Line non geographic calls charged at national rate;
    - Fixed Line international calls;
    - Fixed Line calls to Guernsey mobiles;
    - Fixed Line calls to Other mobiles;
    - Public Payphones;
    - Exchange line connection; and
    - ISDN services.

[26] OUR 07/01

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- Basket 4: On-Island Wholesale Leased Lines: RPI -22%
    - All On-island Wholesale Leased lines

- Basket 5: Off-Island Retail Leased Lines: RPI-RPI
    - All Off Island Retail Leased lines

Proposed Decision

The Director General proposes to set a price control for C&W Guernsey Limited so that the charge for the services described in this section will be controlled along the lines described in section 6.2 of this report.

The DG further proposes that Off Island Wholesale Leased Lines prices should be determined using the "Retail Minus" approach. Based on the analysis of C&WG's 2005/06 Regulatory Accounts[27] the DG believes that for off-island leased lines the retail minus discount should be set at 15% to reflect the avoidable retail costs.

Proposed Decision

The Director General proposes to direct C&WG to set the Wholesale Off-Island Leased Line prices using the Retail Minus 15% mechanism.

6.3 *Duration of the Price Control*

Background

In the past the DG has adopted a three year price control for the telecommunications sector. In considering the duration of any new price control, the DG has been conscious that there is a need to balance the requirement for certainty in the market (for the price controlled company, new entrants and consumers) with regard to prices over a reasonable time horizon, with the need to be able to take account of developments in a market that is technologically and commercially subject to rapid change. The DG notes that regulators in other jurisdictions have typically implemented price control regimes of between two and four years[28].

On this basis therefore the DG believes that any new price control for C&WG should also cover three relevant periods for price control compliance purposes, namely:

- 1st April 2008 to 31st March 2009;
- 1st April 2009 to 31st March 2010; and
- 1st April 2010 to 31st March 2011.

The DG invited interested parties to comment on this proposal.

[27] OUR 07/01

[28] E.g Italy – AGACOM – 2 years & 3 years; Ireland – Comreg – 3 years; Netherlands – OPTA – 3 years, Switzerland – 4 years.

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Responses
C&WG believed that where price controls are justified then three years appeared to be a reasonable proposal for the period of the next price control regime.

DG's Position
The DG welcomes the support for the proposal for a three year price control.

Proposed Decision

The DG intends to set a price control for C&W Guernsey Limited for the period 1st April 2008 through to 31st March 2011.

6.4 *Carry Over*

Background
Since the introduction of price controls in the telecommunications sector the DG has taken a case-by-case approach to carry-over. In the past the DG's view has been that the benefits of carry-over are likely to outweigh the costs. However, in order to protect consumers' interests from the potential for anti-competitive behaviour and other potential abuses of a dominant position, the DG believes it is appropriate to continue with reviewing applications for incorporating a provision for carry over, on a case-by-case basis. This approach is in accordance with international best practice and is a proportionate response to Guernsey's telecommunications market. In addition since the introduction of a simplified process as set out in the Compliance Guidelines (OUR 05/20), the need for carry-over due to uncertainty of volumes has been reduced and as noted in 2005 the DG believes that approval for carryover is likely to be the norm in future. The DG invites views from interested parties on this proposal.

Responses
C&WG's view was that in the event of a price cap then carry over should be permitted and welcomed the DG's belief that carryover would be the norm in the future. C&WG subsequently expressed surprise that the DG would consider carryover on a case-by-case basis and that this would appear to impose an unnecessary administrative step on both C&WG and the OUR, and as such C&WG did not believe that this is a proportionate response to Guernsey's telecommunications market.

Wave believed that carryover should be allowed.

DG's Position
It seems appropriate that a degree of scrutiny is applied to requests for carryover. The extent of such assessments will vary depending on the complexity of the issue. It is not necessarily the case that all assessments will involve a material administrative step, it is the DG's view that as a principle due diligence should be applied to requests.

Proposed Decision

The Director General proposes to determine whether any over achievement in one price control period may be carried over into later periods on the merits of the case presented by C&W Guernsey Limited.

6.5 *Prior Year Weights and RPI*

Background

As part of the simplification of the regulatory regime the DG decided to use prior year revenue weights and prior period RPI figures for monitoring compliance with the existing price control. The DG continues to believe this change was appropriate in light of the better information within the company compared to the original price control decision in 2002 and represents a simplification of the process. He therefore welcomes views on whether this is an appropriate approach to apply to a future price control for C&WG.

The DG invited interested parties to comment on this proposal.

Responses

C&WG confirmed that prior year RPI is the best factor to use in the RPI – X formula as it removes the requirement to forecast and hence provides certainty to the price-controlled operator. C&WG welcomed the introduction of prior year weighting at the last price control review. It has achieved the main aim of simplifying the process for both C&WG and the OUR and C&WG therefore supports the proposal to retain prior year weighting for the next price control period.

DG's Position

The DG welcomes the support for the continued simplification of the process which eliminates regulatory uncertainty for the operator.

Proposed Decision

The DG intends to continue to use prior year revenue weights and prior period RPIs for monitoring compliance with the new price control.

6.6 *Monitoring and Compliance*

Background

The aim of the compliance procedures is to allow C&WG to demonstrate that it has met its obligations under the price control. At the same time the procedures and the Price Control Guidelines (OUR 05/20) are designed to achieve a number of additional objectives:

- minimising the resources required for compliance and monitoring, both from the OUR and from C&WG;
- ensuring maximum transparency and certainty for C&WG to make its pricing

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decisions; and

- providing C&WG with flexibility in establishing tariffs for various services and providing a basis for demonstrating any applications for carryover.

The DG intends to revisit these Guidelines on the basis of past experience to see whether any further changes might be required in order to ensure these primary objectives are achieved as efficiently as possible.

The DG invited interested parties to put forward proposals as to how the Guidelines might be improved and simplified going forward.

Responses

C&WG acknowledged that the move to prior year weighting has greatly simplified the process. However new developments in tariffing will require amendment of the Price Control Guidelines (e.g. to accommodate bundled tariffs such as the recently introduced Sure Home packages). For bundled tariffs C&WG proposed the following addition to the Price Control Guidelines:

Box 6.1 C&WG's proposed amendment to Price Control Guidelines

The Guidelines should state removing any exchange line element of a bundle at the standard price and report this as a separate line in the PCR in the exchange line basket (For Sure Home 2 this would be £7.99 per month per line).

Calculating an apportionment of the remaining amount to the discounted product/service (For Sure Home 2 this would be £14.99 - £7.99 = £7.00 per month per line)

For Sure Home 2 the apportionment of the £7.00 would be:

Free off-peak calls	a x 4.8 pence = X
33% discount on calls to Sure mobiles	b x c = Y
33% discount on national & int. calls	d x e = Z

Where 'a' is number of calls, 'b' and 'd' are number of call minutes and 'c' and 'e' are pence per minute.

Then the total benefit is X + Y + Z = T. Allocate the £7.00 on the basis of the benefit from each type of call as a percentage of T.

DG's Position

The DG accepts C&WG's proposals as a sensible and proportionate proposal and will amend the Price Control Guidelines accordingly.

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Proposed Decision

The DG proposes to amend the Price Control Guidelines to address bundling of services in accordance with the principles set out in section 6.6.

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7. Conclusions and next Steps

The DG has formulated this position based on the best information available to him at this time. Subject to any comments that interested parties may wish to make on these proposals and any further analysis of the OUR's model, the DG intends to publish his decision on this matter early in the new year. The proposed decisions set out in this paper give rise to the following five retail baskets:

- Basket 1 - Exchange Line Rental: RPI+5%
- Basket 2: Local Calls Basket : RPI-12.5%
- Basket 3: Main Basket : RPI-4%
- Basket 4: On-Island Wholesale Leased Lines: RPI -22%
- Basket 5: Off-Island Retail Leased Lines: RPI-RPI

The DG also intends to apply the Retail Minus pricing mechanism to derive C&WG's Wholesale Off Island Leased Lines.

Any comments on the proposed decisions set out in the paper should be sent to the DG by 5pm on 4th January 2008.

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Annex A C&WG's Cost of Capital

Setting the cost of capital (weighted average cost of capital or WACC) for C&WG requires a number of issues to be considered which are addressed in detail within this section. The DG's view is that the CAPM approach is an appropriate methodology for estimating C&WG's WACC as it is widely used and relatively straightforward to estimate and interpret. In considering this issue the DG has followed Ofcom's Final Statement on *"Ofcom's approach to risk in the assessment of the cost of capital"* published in August 2005.

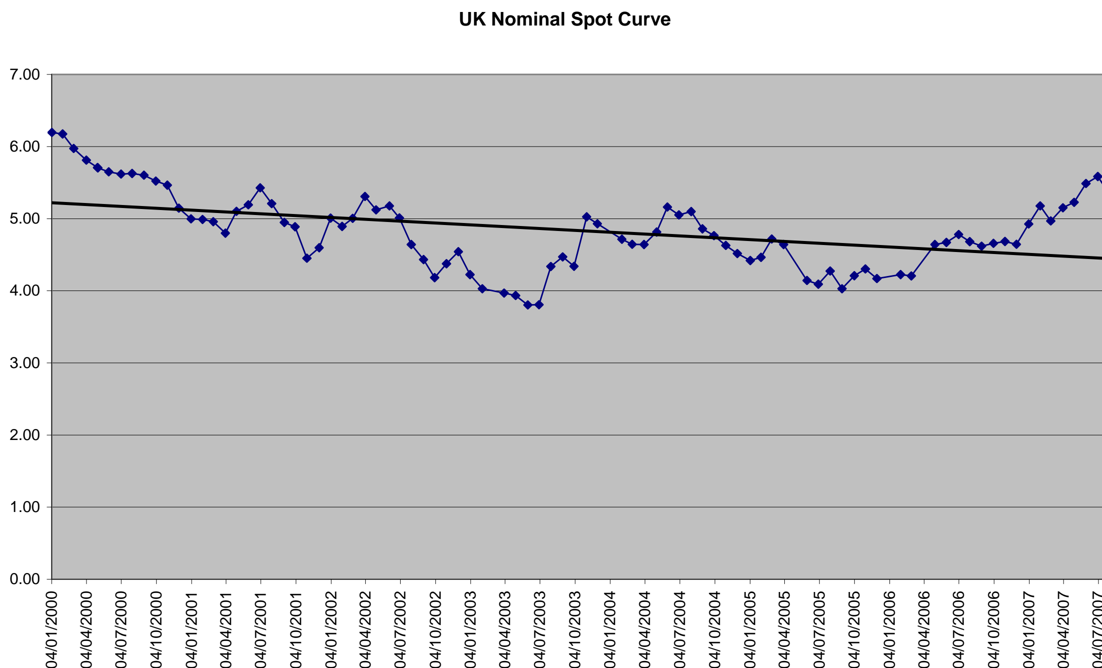
A.1. Cost of Equity

A.1.1. Risk-free rate

The risk free rate of interest is an input into the calculation of both the cost of debt and the cost of equity. As in the previous price control the DG will take the yields on government debt as a measure of the risk free rate. He also continues to believe that a five year maturity period would be the appropriate period.

The UK Nominal Spot Curve for five year government bonds since 2000 is shown in Figure A.1 below. It shows that the current rate of 5.4% is above the general trend line for this period.

Figure A.1 UK Nominal Spot Curve[29]



[29] Bank of England

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Table A.1 below presents recent regulatory precedents for the risk free rate for a number of UK regulators.

Table A.1 Recent Regulatory Precedents on the Risk Free Rate

Country	Company	Regulator	Period	Value	Nominal / Real
UK	Electricity	Ofgem	2005-10	2.7%	Real
UK	Water	Ofwat	2005-10	2.5% - 3.0%	Real
UK	BT Copper Access	Ofcom	2006-09	4.6%	Nominal
UK	BT other Busines	Ofcom	2006-09	4.6%	Nominal
UK	Royal Mail	Postcomm	2006	2.5%	Real
UK	NATS	CAA	2006-10	2.5%	Real

Of particular interest is the Ofcom figure for BT and the regulator's rationale for setting this figure which is covered in paragraphs 8.14 to 8.15 of its Final Statement[30].

In its Partial Private Circuits statement Ofcom had used a value of 5% for the nominal risk free rate which reflected a three month average of the most recently available data for five-year gilts and at the same time was reasonably aligned with the a view of the longer term rate for five-year gilts. However in August 2005 when Ofcom was considering BT's WACC the nominal five-year gilts had fallen to 4.3% which was historically low and simply applying mechanistically the three-month average would generate a risk free rate of 4.2%. Conversely in August 2007 five year gilts are at historically high levels of 5.4% and the rolling three month average would give a nominal risk free rate of 5.5%. The DG concurs with Ofcom that some weight should be given to a longer term perspective. Table A.2 below shows historic averages of the nominal five-year gilt rates currently and at the time of Ofcom's Final Statement (August 2005).

[30] Ofcom's approach to risk in the assessment of the cost of capital

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Table A.2 Historic Averages of the Nominal Five-Year Rates[31]

Average Period	August 9th 2007 OUR – C&WG	August 4th 2005 Ofcom - BT
On the day	5.4%	4.3%
One week	5.4%	4.2%
One month	5.5%	4.2%
Three month	5.5%	4.2%
Six month	5.3%	4.4%
One Year	5.1%	4.7%
Two Year	4.7%	4.6%
Three Year	4.7%	4.5%
Four Year	4.6%	4.6%
Five Year	4.6%	4.7%

Therefore taking into account a longer term perspective the DG intends to base the risk free rate on a five year maturity period and taking a range of average figures use nominal risk free rates of 4.6% and 5.0% for estimating a range for C&WG's cost of capital.

A.1.2. Equity risk premium

The Equity Risk Premium ("ERP") reflects the extra return that investors require as a reward for investing in equities rather than a risk free asset. It is a market, rather than a company-specific factor hence it is increasingly now being referred to as a "Market Risk Premium" ("MRP"). Table A.3 below summarises recent regulatory decisions on value of the ERP as an input to the CAPM and WACC calculation.

[31] Source: Bank of England & OUR

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Table A.3 Recent Regulatory Precedents on the ERP

Country	Company	Regulator	Period	Value	Nominal / Real
Netherlands	Transmission Distributor	DTe	2007-10	4.0% - 6.0%	Nominal
Netherlands	GTS (Gas)	DTe	2006-09	4.0% - 6.0%	Nominal
Netherlands	Post	Opta	2002	6.0%	Nominal
Belgium	Gas Distribution	CREG	2005	3.5%	Nominal
UK	Electricity	Ofgem	2005-10	4.8%	Real
UK	Water	Ofwat	2005-10	4.0% - 5.0%	Real
UK	BT Copper Access	Ofcom	2006-09	4.5%	Nominal
UK	BT other Busines	Ofcom	2006-09	4.5%	Nominal
UK	Royal Mail	Postcomm	2006	4.0% - 5.0%	Nominal
UK	NATS	CAA	2006-10	3.5% - 5.0%	Real
Finland	Mobile Telecom	Ficora	2006	4.0% - 6.0%	Nominal
Australia	Electricity Distribution	ORG	2006-10	6.0%	Real
New Zealand	Lines Business	CC	2006-08	7.0%	Nominal
Jersey	Jersey Telecom	JCRA	2004-2006	2.6% - 5.5%	Nominal

The DG notes that Ofcom's view on a value of 4.5% represents a balance between a bias towards investment incentives and some consideration of consumer protection. Ofcom's decision on the ERP was influenced by consideration of the evidence from Dimson, March and Staunton ("DMS")[32]. Specifically Ofcom believe that the emergence of the DMS work to be *"single most authoritative source of estimated premia based on historic data."*[33]

The DG therefore proposes to follow Ofcom's lead on this issue and use an ERP of 4.5% nominal for both C&WG's retail business and its on-island leased lines business.

A.1.3. Equity Beta

As C&WG is not a publicly listed company it is not possible to directly estimate the Equity Beta for the company. The DG therefore intends to use a sample of operators with similar characteristics which is common regulatory best practice to estimate an Asset Beta for C&WG which is then converted into an Equity Beta depending upon the gearing level of the company. The DG proposes to derive two Asset Betas one for C&WG's fixed retail services and one for its on-island wholesale leased lines business. This disaggregation of Asset Beta's is consistent with Ofcom's approach to determining separate Asset Beta's for BT Group and BT Access, which the DG notes C&W plc believe to be a commendable initiative. In informing his decision the DG has drawn upon a number of information sources.

The table below summarise estimates of BT's Asset and Equity Betas assumed by Ofcom

[32] Dimson, Marsh & Stuanton, 2002 "Triumph of the Optimists: 101 Years of Investment Returns" ABN AMRO and London Business School
[33] Ofcom, August 2005 – Ofcom's approach to risk in the assessment of the cost of capital. Final Statement

and C&W plc during the consultation on the UK regulator's approach to risk in the assessment of the cost of capital.

Table A.4. Estimates of BT's Asset Betas

	Equity Beta	Gearing Ratio	Asset Beta
Ofcom's Assumptions			
BT – Copper Access – High Gearing	0.9	35%	0.59
BT – Copper Access – Low Gearing	0.8	30%	0.56
BT – Group – High Gearing	1.23	35%	0.80
BT - Group – Low Gearing	1.14	30%	0.80
C&W plc Assumptions			
BT – Copper Access	0.68	47.5%	0.36
BT - Group	0.96	32.5%	0.65

C&W plc and Ofcom estimate the BT Group's Asset Beta to be between 0.65 and 0.8 with the Asset Beta for the Access Network being 0.2 to 0.3 points less. It is also noticeable that C&W plc assume the optimum level of gearing for BT's Access group to be around 50% higher than the Group's optimum gearing level.

Other Asset Beta estimates for telecoms operators are shown in Table A.5 below.

Table A.5. Estimates of Telco's Asset Betas

	Asset Beta
Ofcom – call to Mobile 2004	0.9 to 1.44
Oftel BT Network Charge Control Review	0.95
Oftel – Kingston Communications	0.7
IBPT – Belgacom 2003	0.58
PTS – TeliaSonera 2003	1.0

In 2004 the Jersey Competition and Regulatory Authority assumed Jersey Telecom's Asset Beta to be between 0.68 and 0.72. This compared with the OUR's estimates in 2005 of an Asset Beta of between 0.85 and 1.00 for C&WG.

In light of the available evidence the DG believes it appropriate to take a conservative view on estimating C&WG's Asset Beta for the retail business and therefore proposes to assume figures towards the high end of the range. The DG intends to assume Asset Betas of 0.9 and 1.1 for C&WG's retail business. This equates to Equity Betas of 1.0 and 1.22 with gearing at 10% as inputs for estimating a range for C&WG's cost of capital for its retail business for this price control.

In deriving BT's Asset Beta for BT's copper access business the DG notes that Ofcom reduced the access Asset Beta by between 0.2 and 0.3 points. Whilst C&W plc also suggested a reduction of almost 0.3 points for the access network Asset Beta. For

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C&WG the DG believes a slightly smaller reduction is warranted and therefore proposes to reduce the retail equity beta by 0.2 points to derive the wholesale leased line business Asset Beta. Therefore he intends to use to use Asset Betas of 0.8 and 0.9 as inputs to the CAPM and WACC calculations for C&WG's wholesale leased lines business. These equate to Equity Betas of 0.78 and 1.0 with gearing at 10%.

A.2. Cost of Debt

The cost of debt comprises the risk free rate and the debt premium. The debt premium is the company specific risk premium for corporate debt above the risk free rate.

The DG believes that the appropriate basis for setting the debt premium would be Ofcom's current view on the debt premium for BT 1.0%. The DG proposes to use 1.0% for the low level assumption and 1.5% for the high level estimate.

A.3. Gearing & Tax

C&WG has a gearing level of 0%. The question is whether this level should be used in estimating the cost of capital, or whether some "optimal" level of gearing should be used instead.

It would be consistent with regulatory practice for OUR to assess the WACC based on optimal gearing, however the OUR wishes to take a cautious approach to gearing given that there is likely to be a significant difference between actual and estimated "optimal" gearing. In particular it might be unrealistic to assume that C&WG would be able to reach an optimal level of gearing within the price control[34].

The DG considers an alternative approach would be to assume an average level of gearing representing a move during the price cap period towards a level which is likely to be closer to the optimal level. The DG believes a figure of 10% would appear reasonable in this context.

The DG considers that the use of a 20% corporation tax is a reasonable assumption given the recently agreed changes to the Guernsey tax regime. It is a standard regulatory practice to use the standard rate as opposed to the effective tax rate, principally for reasons of simplicity and transparency.

A.4. Cost of Capital Conclusions

Table A.6 provides the summary estimate of the pre-tax nominal cost of capital for C&WG, based on the assumptions described above.

[34] The fact that C&WG has lent funds to group implies that C&WG actually has negative gearing. This does not alter the fact that OUR should consider C&WG as if it were a stand-alone entity and that it is appropriate to consider the WACC under an "optimal" gearing. It may though influence the period of time over which it is reasonable to expect C&WG to achieve a more appropriate gearing level.

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Table A.6: Summary view of cost of capital estimates for C&WG

	Retail		Wholesale On Island Leased Lines	
Factor	**Low**	**High**	**Low**	**High**
Risk-free rate	4.6%	5.0%	4.6%	5.0%
Debt premium	1.0%	1.5%	1.0%	1.5%
Cost of debt	**5.6%**	**6.5%**	**5.6%**	**6.5%**
Risk-free rate	4.6%	5.0%	4.6%	5.0%
Equity risk premium	4.5%	4.5%	4.5%	4.5%
Asset Beta	0.90	1.10	0.70	0.90
Equity Beta	0.94	1.10	0.74	0.90
Cost of equity	**11.38%**	**13.13%**	**10.13%**	**11.88%**
Gearing	10%	10%	10%	10%
Tax rate	20%	20%	20%	20%
WACC – pre-tax nominal	**10.80%**	**12.46%**	**9.67%**	**11.34%**

The DG proposes to take a WACC as the mid-point from the estimated high and low level values rather than rely on a single estimate point. This approach is consistent with the previous decision in 2005 and also the approach adopted in Ofcom's final statement on its approach to risk in the assessment of the cost of capital for BT.

The range for the WACC for the retail business is 10.8% to 12.46%. The DG therefore proposes to use a pre tax nominal WACC of 11.6% in the OUR's economic modelling of C&WG's price control (i.e. the midpoint of the range).

The range for the WACC for the wholesale on-island leased lines business is 9.67% to 11.34%. The DG therefore proposes to use a pre tax nominal WACC of 10.5% in the OUR's economic modelling of C&WG's price control (i.e. the midpoint of the range).

For comparative purposes the WACC assumed for incumbent operators in European jurisdictions are shown in Table A.7 below.

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Table A.7: European Fixed Telecoms Operators WACCs[35]

Country	Rate	Nominal / Real	Description
Austria	10.48%	Nominal pre tax	
Belgium	11.44%	Nominal pre tax	Used for interconnection, bitstream access and LLU
Denmark	8.6%	Nominal pre tax	
Finland	7.95% - 10.3%	Nominal pre tax	
France	9.8%	Nominal pre tax	Basis for LLU charges in 2006 & 2007
Germany	9.47%	Nominal pre tax	LLU rental charges
Greece	10.4%	Nominal pre tax	
Ireland	9.43%	Nominal pre tax	OXERA report November 2007
Italy	10.2%	Nominal pre tax	Access and interconnection
Netherlands	7.6%	Nominal pre tax	Wholesale price cap
Norway	13.1%	Nominal pre tax	
Portugal	13.32%	Nominal pre tax	
Spain	10.8%	Nominal pre tax	
Sweden	10.8%	Nominal pre tax	Fixed networks
Switzerland	7.6%	Real	Interconnection dispute – access
UK	10.0%	Nominal pre tax	Copper access network
	11.4%	Nominal pre tax	Rest of BT
Jersey	11.25%	Nominal pre tax	

[35] Source: OUR Research

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Annex B	Separate Document - "*Review of C&WG Operating Cost Forecasts*" prepared by Frontier Economics (Confidential to C&WG)

Annex C	Separate Document - "*Allocation of Costs in C&WG's Price Cap Business Model*" prepared by Frontier Economics (Confidential to C&WG)

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Annex D High Level Extract from "Review of Capex Forecasts included in C&WG's price cap Business Plan" prepared by Frontier Economics (Clawback Methodology)

A forecast of capital expenditure is a key element in deriving a price control. Indeed, any differences over the course of the control between the forecast level of expenditure and actual capital spend, can have significant implications for the regulated firm. This section describes how the OUR has treated C&WG's decision to postpone the investment in its next generation network (NGN), which had been forecast to take place in the current control period.

D.1. C&WG's Capital Expenditure Programme

Frontier Economics' review of C&WG's historical capex has shown that, overall, during the current price control period, C&WG has not spent the level of capital expenditure forecast at the time of the last review. For some particular projects it has spent less than forecast, whilst other projects will have required more expenditure than was originally forecast.

Deviation of this sort from capital expenditure included in the price control may be considered to be an integral part of price control/incentive regulation. The final level of investment included in the price cap model was judged to be reasonable by OUR/its advisers and subject to consultation with C&WG. If C&WG has actually been able to implement the proposed upgrades for less, it should be allowed to benefit from this efficiency. If, alternatively, C&WG has not invested efficiently and has incurred additional costs, it should not – without good reason – be compensated for the over-spend.

However, this treatment of any deviations between forecast and actual capital expenditure may not be appropriate in all cases. During the last price control review, C&WG stated that it would, in the current price cap period, implement investment projects associated with its NGN. At this time, C&WG has not carried out the proposed investment in its NGN and further, is forecasting in its new price cap business model, that it will incur this capex in the next price control period.

If C&WG had never intended to deploy the NGN in this price cap period, no allowance

for such expenditure would have been included in the current control. Therefore, it would clearly not be appropriate to allow C&WG to recover some “costs” associated with the planned (but not incurred) “investment” in the current price control and then, without adjustment, also include the same investment in the new price cap business model. In the extreme, such an approach could end up being repeated each price control period, with C&WG always postponing its NGN investment but then including it in its forecast for the next price control, and, in each price control period, receiving an allowance for the planned expenditure. Thus would result, in essence, in “double counting” part of C&WG’s capital expenditure.

It would therefore be appropriate to quantify the allowance included in the last price control for NGN investment. The present value of this allowance could then potentially be subtracted from C&WG’s revenue requirement for the next price control, thus ensuring that C&WG does not over-recover the costs of its NGN.

Total outlay associated with a capital expenditure project is not recovered in the year in which the cost outlay is incurred. Rather, the costs will be recovered over the course of the associated asset’s life, with both the depreciation charge for the asset and a return on the net book value of the asset being incorporated into the regulated firm’s revenue requirement. Therefore, because the NGN assets associated with the proposed investment plan have asset lives longer than the length of the control, C&WG would not, in the current control, have recovered its total investment costs in the NGN. As such, it is not possible to simply extract the proposed investment cost from C&WG’s revenue requirement for the next period.[36]

D.2. Estimating the Impact of C&WG’s Capex Underspend on NGN Equipment

Frontier Economics sought to estimate the value of the “allowance” included in the current price control for C&WG’s investment in its NGN. Such an allowance should then inform any decision regarding potential ‘clawback’ of this allowance.

The current price cap included an allowance for this expenditure, divided into two elements (WACC and depreciation). Based on the actual timing of spending, an average

[36] At the start of the next price control, the opening RAB is recalculated, rather than simply being rolled forward from the previous control model. As such, investment forecast, but not conducted, in the first price control period will not appear in the RAB for the next price control period (unless it is once again forecast to be included). Therefore, C&WG will not continue, in the next price control period, to earn a return on investment in the current price control that has not actually taken place.

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asset life of 5 years and a WACC of 12%,[37] Frontier Economics have forecast what this allowance would have been if actual expenditure had been included in the model, and what it was, based on forecast expenditure. The results of this analysis disaggregates the capital allowance into the capital charge and depreciation, according to the projected capital expenditure, forecast in the last review, and the actual investment expense.

This suggests that the current net present values of the allowance based on the forecast capital expenditure and that based on actual capital expenditure, would be equal to £2,457,000 and £998,000, respectively. This analysis therefore suggests that in the current price cap, C&WG had the opportunity to over-recover, in present value terms, a total amount of £1,459,000.

D.3. Proposed approach

Given that C&WG has not actually carried out the investment in its NGN that it claimed – at the time of the last review – it is reasonable to claw back, in the next price control period, all or part of the allowances included, for this investment, in the current price control. This, for example, could take the form of reducing C&WG's revenue requirement by the amount of over-recovery in the previous period (either all in one period or equally across all periods).

Even though clawing back some revenue may reduce C&WG's ability to earn its cost of capital over the next price control period, it should not affect C&WG's ability to earn its cost of capital over the life time of the assets concerned. As a result, it should not affect C&WG's ability to fund its investment. Without such an adjustment, C&WG could earn an excess return, not related to efficiency savings, but instead related to it not having carried out investments which customers have, in part, financed.

[37] Price Control for Cable and Wireless Guernsey. Decision Note - OUR 05/19. August 2005. http://www.regutil.gg/docs/OUR0519.pdf. The asset life of five years is based on the asset life included in the current price cap model for CapX02 (concentrator) and CapX12 (Switch), both key elements of the NGN. It assumes that these asset lives were also relevant at the time of the last price control review.

Annex E Separate Document - "*Review of C&WG's Business Plan Demand Forecasts*" prepared by Frontier Economics (Confidential to C&WG

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Annex F Market Status in Number of Jurisdictions

The following tables are based on questionnaires sent to National Regulatory Authorities ("NRAs") during the summer of 2007 and the OUR's own desktop research. The information provides a context to understand the need for a price control within Guernsey. The DG is grateful to all those NRAs who assisted his staff in compiling this information.

Price Controls in Selected Jurisdictions

Jursidiction	Retail Price Control		
	Yes / No	**Details**	**Main reason if no retail price control**
Austria	No	N/a	On March 3 and March 20, 2006 TKK concluded the analysis of the retail markets. No retail price caps were set.
Belgium	No	N/a	In June and Aug. 2006, BIPT concluded analyses of M 1-2 and 3-6. No price cap set.
Denmark	No	The last part of the price regulation was lifted on 1 January 2006. The price controls have been lifted gradually since 2004.	The market has been deemed sufficiently competitive. Retail price cap regime for PSTN and ISDN telephony services (subscriptions and call set-up charges) was effectively removed from Jan. 1, 2006.Retail price caps regime for the minimum set of leased lines was effectively removed from March 1, 2006.
Finland	No		Lighter remedies found sufficient.
Germany	No	The previous price cap expired on Dec. 31, 2004.	On June 23, 2006 BNetzA concluded analyses of M 1-6. No retail price caps were set.
Hong Kong	No		Operators were licenced to provide telecommunication services on a competitive basis.
Isle of Man	No	Available to the regulator	Available after SMP investigation. Not yet required.
Luxembourg	No	N/a	Final decision on M 1-2 adopted on Feb. 2, 2007. No price cap Final decision on M 3-6 adopted on March 8, 2007. No price cap Final decision on M 7 adopted on March 8, 2007. No price cap
Norway	No	N/A	(In June 2002 the former retail price cap regime (RPI - 0%) applicable to public telephony services and leased lines was prolonged until the end of 2002. In the proposal (Nr. 58) for the

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			Electronic Communications Act transposing the EU 2003 Package the Ministry proposed to terminate the price cap regime. This was approved by parliament and a possible decision on a new price cap was not taken).
Sweden	No		Any competition problem identified should be targeted with regulation on wholesale level first. Only if this does not remedy the problems retail regulation should be applied.
UK	No	Price cap regime for residential line rental and calls was removed effective Aug. 1, 2006.	In Ofcom's June 2004 decision on M 7, for retail analogue leased lines and 8 Mbps traditional interface leased lines provided by BT, Ofcom accepted a voluntary cap of RPI+0% until June 2006 or the next market review, enforced by imposition of cost orientation in case of breach. Ofcom in its consideration of removal of price control for some of BT's retail business services excluded leased lines, but Ofcom expects to conduct review of leased line markets in 2007 (see Ofcom Annual Plan 2006/7)
Bahrain	No	All price changes approved by TRA	Tariff submission and approval process - RPC to be implemented in 2007
UAE - United Arab Emirates	Yes	All prices must be submitted to the TRA for approval	N/A
Cayman Islands	Yes	price ceilings and imputation test price floors for incumbent's line rental and domestic calling rates	
Egypt	Yes		
Estonia	Yes	Universal services - price cap	
France	Yes	As part of its bid to become a universal service provider, FT has offered to apply an annual price cap of RPI-7% to a basket of calls (local, national and fixed-to-mobile) for the period 2005-2008. On July 25, 2006 ARCEP imposed a RPI-3% on universal service (Decision 06-0725).	Following the first round of market analysis, ARCEP has imposed a price cap on FT on fixed to mobile calls (to ensure that any reduction in MTRs would be passed on to fixed callers). In the second round of market analysis, in Sep. 2006, ARCEP adopted Decision 06-0840 withdrawing the price cap.
Greece	Yes	On July 27, 2006 EETT issued for public consultation the market definition and analysis of M 1-2 and 3-6. EETT found OTE as having SMP in the relevant markets and proposed an introduction of retail price cap at a rate of CPI-X. On Nov. 22, 2006 EETT adopted a final decision on M 1-2 while the final decision on M 3-6	

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		was adopted on Nov. 29, 2006.
Grenada	Yes	dominant firm in fixed lines
Guernsey	Yes	Price Cap
Ireland	Yes	As part of its analysis of M 1-2 of March 2005, ComReg proposed to maintain the price cap, and to introduce a separate cap on PSTN lines rental at a rate of: CPI-CPI for one year from the date of the decision on remedies and CPI-0% for any subsequent year, if appropriate. As part of its new consultation on M 1-2 of Aug. 17, 2006 ComReg launched a consultation on the retail price cap as a potential remedy on fixed narrowband access markets. ComReg is still of the view that some form of a price cap control continues to be necessary for at least some of the retail services provided by eircom (designated as having SMP) in these markets
Israel	Yes	Prices of wireline incumbent (former monopolist) "Bezeq" set by Minister Prices are set at fixed rates for basic services (line rental, calls, etc) and are not a "price cap", rather a set price. Prices for advanced services and non-essential services (broadband, data, etc.) are set by Bezeq and ex-post regulation is in place, i.e.Bezeq informs Ministry of prices and Minister may intervene if prices are unreasonable.
Italy	Yes	M1 & M2 2005-5006 & M3 & M5: 2007-2009 On Jan. 19, 2006 AGCOM concluded the analysis of M 1-2 (Decision 33/06/CONS) and designated Telecom Italia (TI) as having SMP. AGCOM strengthened the price cap for line activation and line rental for residential customers from RPI-0% per year to RPI-RPI per year for 2006 and 2007. The price cap for non-residential customers remains RPI-0% per year Telecom Italia, Tele2 and Welcome Italia have appealed the AGCOM decision on M 1-2 to Regional Administrative Court of Lazio (Tribunale amministrativo regionale del Lazio). The court judgements are pending. M 3 and 5:local and national calls: RPI-RPI; fixed-to-mobile calls (Telecom Italia retention): RPI-6%.
Jersey	Yes	Price Cap
Jordan	Yes	PSTN basic services (installation, rental, local, national, international).
Malta	Yes	Retail price control in the case of Maltacom Plc. (Malta's fixed line incumbent). Due to competitive pressures, price controls in Maltacom's case focus on ensuring the absence of predatory pricing, and that retail offerings are replicable by wholesale operators.
Netherlands	Yes	Jan. 1, 2006 - Dec. 31, 2008 In its decision on M 1-6, OPTA imposes a price floor and a price cap for all single and bundled retail services of KPN. For low-capacity access, only a price cap will be set. For voice over broadband services, a specific price floor will be set.
Oman	Yes	Fixed Service and Leased Line

Portugal	Yes	On Dec. 30, 2002 PT signed a price convention for telephony, with the DGCC (Directorate General for Trade and Competition, the former NCA) and ANACOM. It applied to fixed telephony services (on a subscription basis), directory inquiry (DQ) services, public payphones and information services. Following to market analysis and the remedies imposed, ANACOM revoked the price convention. However, it maintained the value of the price cap for telephony services: average variation of prices (for connection fee, monthly line rental, on-net local, regional and national calls) must not exceed CPI - 2.75%. The price cap applies to the residential markets.
Spain	Yes	On Feb. 20, 2006 CMT adopted its final decision on the retail call markets (M 3-6) and abolished Telefónca's price cap on metropolitan, provincial, inter-provincial, international and fixed-to-mobile calls. In March 2006, CMT adopted its final decision on the retail fixed access market (M 1-2) and decided to subject analogue access (connection fee and monthly line rental) for residential and non-residential customers to a price-cap. In 2007, the connection fee and the monthly line rental are subject to a cap of CPI-0% · From 2008, the connection fee will be subject to a cap of CPI - CPI and the monthly line rental will be subject to a cap of CPI-0%.
St. Vincent	Yes	Price cap plan N/A

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Carrier Pre-Select in Selected Jurisdictions

Jursidiction	Carrier Preselection		
	Available (yes/ no)	**Year Introduced**	**Take Up**
Austria	*Yes*	*Jan-02*	*As of March 2002 - 775,000.*
Bahrain	yes - international only	2006	1% of fixed lines
Belgium	*Yes*	*Jan-00*	*500,000 as of March 2002*
Cayman Islands	No	N/A	N/A
Denmark	*Yes*	*1996*	*422.000 as of 31 December 2006. The uptake peaked at 3.083.000 as of 30 June 2002.*
Egypt	No	N/A	N/A
Estonia	yes	01/01/2001	02/01/2001
Finland	*Yes*	*1994*	*1994*
France	Yes	Jan-00	
Germany	*Yes*		
Greece	Yes	2003	
Grenada	No	N/A	N/A
Guernsey	No	N/A	N/A
Hong Kong			
Ireland	Yes		
Isle of Man	*YES (Licence Condition)*	*Not yet*	*Nil*
Israel	See final column	1996	Low For International calls only as of today almost all international calls are by call-by-call selection. Significant competition and low prices exist, and the ILD companies use their call-by-call selection digits as their trademarks. i.e. 012, 013, etc.
Italy	Yes	Jul-00	3.7 million as of 1/10/2004
Jersey	No (but CPS available)		
Jordan	Yes	2006	Still not implemented
Luxembourg	*Yes*	*2000*	
Malta	Yes	2006	1 Operator (Sky Telecom)
Netherlands	Yes	Aug-02	

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Norway			
Oman	NO	Not yet	N/A
Portugal	Yes		302,000 (7% of the total number of lines).
Spain	Yes		As of the end of August 2002 - 1.7 million
St. Vincent	No		
Sweden	*Yes*	*Fixed - Sept 1999*	*850000*
UAE - United Arab Emirates	No		N/A - Carrier preselection is required but not yet introduced, however, carrier selection is avaliable as of 26 July 2007
UK	*Yes*	*Jul-02*	*A decrease since 2006 due to mergers between operators.*

Number Portability in Selected Jurisdictions

Jursidiction	Number Portability		
	Available (yes/ no)	Year Introduced	Take Up
Austria	Yes	2000	AS of Auguest 2002 - 6707
Bahrain	NO		
Belgium	Yes	31/07/2000	400,000 by mid-2002
Cayman Islands	No	N/A	N/A
Denmark	Yes	1999	99.000 portings of fixed numbers carried through during 2H06. 233.000 portings of mobile numbers carried through during 2H06. The numbers are not cumulated since 1999.
Egypt	Yes	Will be introduced by the beginning of 2008	Intoduction of the 3rd mobile operator
Estonia	yes	fix telephone 2004, mobile telephone 2005	fix telephone 2004, mobile telephone 2005
Finland	Yes	2003 mobile, 1997 fixed	2004 mobile, 2004 fixed
France	Yes	1998	400,000 as at 31st Dec 2003
Germany	Yes	1998	
Greece	Yes	2003	As of 2005 - 27,403
Grenada	No	N/A	N/A
Guernsey	No	N/A	N/A
Hong Kong	yes	for mobile service number portability: 1999 for fixed service number portability: 1995 Pls visit http://www.ofta.gov.hk/en/telecom_fact/milestones/main.html	By June 2003 - about 1.1 million
Ireland	Yes	2000	28,000 as at 31st Dec 2003
Isle of Man	YES	2004 (Licence Condition) 2007 work in progress (Mobile)	Not yet launched
Israel	No - has been legislated and scheduled to take effect	N/A	N/A

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	December 2007.		
Italy	Yes	MNP introduced on 30/04/2002 Fixed introduced in 2002	MNP - 2.5million by June 2004 and 300,000 for fixed as at 31st Dec 2003
Jersey	No (not yet)	N/A	N/A
Jordan	Yes	2006	Still not implmented
Luxembourg	Yes	2000	
Malta	Yes	2005	As at the end of May 2007, 12,699 portings had been registered (this excludes re-portings)
Netherlands	Yes	1999	312,412 between Jan 2001 and April 2002.
Norway			
Oman	Yes	Aug-06	Introduced in GSM networks (OMAN mobile and Nawras)
Portugal	Yes	2001	As of August 2002 - 39,196 in total. Of which, 36,637 is fixed (mainly to the cable operator), and 2,559 to mobile.
Spain	Yes	2000	770,948 as at 31st Dec 2003
St. Vincent	No		
Sweden	Yes	Fixed - July 1999, Mobile - Sept 2001	591091 (F) 2292736 (M)
UAE - United Arab Emirates	No	Required but not yet introduced.	N/A
UK	Yes	1997	

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Local Loop Unbundling in Selected Jurisdictions

Jursidiction	Local Loop Unbundling		
	Available (yes/ no)	**Year Introduced**	**Take Up**
Austria	*Yes*	*Jun-00*	*By the end of June 2005 - 97,119.*
Bahrain	No Study to begin August 2007		
Belgium	*Yes*	*Oct-00*	*AS of 1st October 2002 - the number that has been fully unbundled is 1,553 and 1,039 shared lines. The poor uptake maybe due to the poor economic situation of the market players*
Cayman Islands	No	N/A	N/A
Denmark	*Yes*	*2000*	*By the end of 2006 (not including lines supplied by the incumbent's wholesale division to its retail division or to its ISP retail subsidiary): LLU: 102.023. Shared access: 87.025. Bitstream access: 92.812. Simple resale: 21.460*
Egypt	Yes	23/06/1905	Introduction of DSL
Estonia	Yes	2001	2001
Finland	*Yes*	*1994*	*1994*
France	Yes	Jan-01	576 as of June 2002. Uptake has been disappointing because of complex market entry conditions and delaying tactics of the incumbent.
Germany	Yes		
Greece	Yes		
Grenada	No	B/A	N/A
Guernsey	No	N/A	N/A
Hong Kong	*Yes*	*Mandatory interconnection from exchange to end customer premises will be withdrawn in June 2008. Pls visit http://www.ofta.gov.hk/en/interconnection/main.html*	
Ireland	Yes	Dec-00	
Isle of Man	*No*	*N/A*	*N/A*
Israel	No	N/A	N/A
Italy	Yes		82,000 at the end of Sept 2002
Jersey	No	N/A	N/A
Jordan	Yes	bit-stream	however, no offers is currently avaliable by the incumbent operator (JT)

		unbundling is mandated in 2005	
Luxembourg	*Yes*		
Malta	Yes	2006	None
Netherlands	Yes		As of October 2002 - 232,768 but 206,437 of them were to the incumbent itself, leaving only 18,240 fully unbundled and 8,091 shared lines to the new entrants.
Norway	*Yes*		
Oman	No	Not yet	N/A
Portugal	Yes		
Spain	Yes	2001	As of 1st October 2002 - 1,182. No loops in shared use were unbundled due to a lack of demand.
St. Vincent	No		
Sweden	*Yes*	*2000*	*542000*
UAE - United Arab Emirates	No	N/A	N/A
UK	*Yes*		*As of April 2007 - 2 million unbundled*

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Regulation of Wholesale Leased Lines in Selected Jurisdictions

Jursidiction	Wholesale Leased Lines - Price Controlled		
	Yes / No	**Details**	**Reason if not price controlled**
Bahrain	NO		No network price controls - charges are cost based and published in Reference Offer
Belgium			
Cayman Islands	Yes	20% off retail rates	N/A
Denmark	Yes -	New DRAFT market analysis indicate competition on the trunk part of leased lines (Market 14). This might lead to withdrawel of regulation	N/A - except leased lines between 12 major cities
Egypt	Yes		N/A
Estonia	Yes	Cost based price control (since August 2007)	N/A
Finland	Yes (non-discrimination), trunk segments not regulated		Market for trunk segments found competitive
Grenada	No	N/A	N/A
Guernsey	Retail Minus		
Hong Kong	No		
Isle of Man	No	Available to the regulator	Available after SMP investigation. Not yet required
Israel	No	N/A	Currently, competition in the wireline sector is based on independent infrastructure and not unbundling/incumbent resale.
Jersey	Yes	Price Cap	N/A
Jordan	No		transport links are regulated as interconnection service
Malta	Yes	Price control mechanism based on detailed bottom-up cost model for the incumbent	Not Applicable
Oman	No	N/A	N/A
St. Vincent	No	No	N/A
Sweden	Yes	Terminating segments of leased lines are price regulated according to FDC (fully distributed cost)	N/A

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UAE - United Arab Emirates	Yes	Only as interconnection service between licensed operators	N/A
UK	Yes		

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Market Characteristics in Selected Jurisdictions

Jursidiction	Fixed Market Liberalised	Incumbents Current Market Share (total calls)	Incumbents Market Share 5 years after liberalisation (total calls)
	Year	%	%
Austria	1998	58%	
Bahrain	2004	99%	NA
Belgium	1997	64%	
Cayman Islands	2003	Not publicly disclosed	Not publicly disclosed
Denmark	1996	65%	64%
Egypt	No	One Operator = 100%	
Estonia	01/01/2001	80%	81%
Finland	1993	96%	>90%
France	1998	65%	
Germany		44%	
Greece		82%	
Grenada	2000	100 fixed	1
Guernsey	2001		
Hong Kong	2000 Pls visit http://www.ofta.gov.hk/en/telecom_fact/milestones/main.html &		about 94%
Ireland	1st Dec 1998	74%	
Isle of Man	2004 (Licence)	100	NA
Israel	2003 previous attempts to introduce competition in fixed services (fixed wireless, etc.) failed.	approx. 90%	
Italy		66%	

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Jersey	2003	Est 97%	N/A
Jordan	Yes	100%	Fixed Market Liberlised in 2005
Luxembourg	1998	79%	
Malta	2003	97%	5 years have not yet elapsed since liberalisation
Netherlands		65%	
Norway			
Oman	NO	100%	N/A
Portugal		78%	
Spain	Dec-98	69%	
St. Vincent	2003		
Sweden	1993	57%	N/A
UAE - United Arab Emirates	Yes	2nd license awarded only in 12 February 2006, Competitive calls through carrier selection launched on 26 July 2007, Competitive line rentals not yet launched.	N/A
UK		53%	

/ENDS

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