CORNING

CORNING INCORPORATED

Response to the draft Commission Recommendation on regulated access to Next Generation Access Networks (NGA)

1 Introduction

Corning welcomes the opportunity to respond to the European Commission's consultation on the draft Commission Recommendation on regulated access to Next Generation Access Networks (NGA).

Corning Incorporated (www.corning.com) is the world leader in specialty glass and ceramics. Drawing on more than 150 years of materials science and process engineering knowledge, Corning creates and makes keystone components that enable high-technology systems for consumer electronics, mobile emissions control, telecommunications and life sciences. Our products include glass substrates for LCD televisions, computer monitors and laptops; ceramic substrates and filters for mobile emission control systems; optical fibre, cable, hardware & equipment for telecommunications networks; optical biosensors for drug discovery; and other advanced optics and specialty glass solutions for a number of industries including semiconductor, aerospace, defence, astronomy and metrology.

As the worldwide market leader in optical fibre, optical fibre cabling and passive hardware solutions with more fibre deployed worldwide than any other supplier in the industry, Corning has a deep knowledge of the benefits and practical challenges of deploying Fibre to the Home (FTTH). Therefore, Corning believes that we are able to offer valuable insight into the present consultation in relation to the regulation of Next Generation Access Networks (NGA).

We continue to believe that there is now a critical window of opportunity for Europe to put in place a regulatory framework for next generation access networks which will offer the right balance on one hand between appropriate regulation to maintain competitiveness and on the other a regime which will encourage the required investment in access networks which Europe urgently requires to maintain its global competitiveness. It is particularly vital that both aspects receive critical attention. The proposed Recommendation is a key element in providing the required regulatory certainty, harmonising the European approach to the greatest extent possible and providing clear messages which will accelerate investment while safeguarding consumer interests and transitioning to the new Regulatory Framework.

2 Corning's approach

Corning believes that the EC regulatory framework should favour a policy encouraging investment in infrastructure at the deepest level in order for customers to benefit from both effective long term competition and continuous innovation in services (infrastructure based approach to competition). The development of infrastructure based competition (as opposed to service competition) is also key to enabling the removal of ex-ante regulation at the earliest opportunity. Corning welcomes the strong emphasis in the draft Recommendation on enabling infrastructure based competition wherever possible.

In determining the approach to regulation of NGA it is also necessary to consider how to approach the question of the technology neutrality rationale. According to the text in the 1999 Communication Review, technology neutrality means that "the legislation should define the objectives to be achieved, and should neither impose, nor discriminate in favour of, the use of a particular type of technology to achieve these objectives". However we believe that this should be a subsidiary objective to the achievement of infrastructure based competition. There is a danger that considerations of technology neutrality could lead to the development of inappropriate regulation of NGA. We believe that it is more important to develop regulation at the wholesale level which does not discriminate between networks which are capable of delivering the same set of services (irrespective of the specific network technology employed, for example different 'flavours' of PON) and which recognises that not all technologies are substitutable. Therefore NGA networks are clearly distinct from legacy copper networks and wireless from fixed NGA networks. It may also be appropriate to consider whether different 'flavours' of NGA are also substitutable, for example FTTH networks have a capability potentially two orders of magnitude greater than xDSL approaches. We therefore believe that in taking an infrastructure based competition approach it is important to clearly differentiate between infrastructure with different service capabilities and to apply appropriate, and possibly differing, remedies accordingly in order to correctly balance between regulation to maintain competitiveness and encouraging investment in new capabilities.

In the case where an operator (fixed network incumbent or alternative operator) is building a completely new network with no pre-existing infrastructure, no ex-ante regulation or at least very light touch should apply as there is no barrier to entry. This should also apply in areas of substantial infrastructure competition (so-called black areas), for example in high density metropolitan areas (where an adequate business case exists for deployment and where there is likely to be access to civil infrastructure) or where there is a broadband capable network (eg cable TV, alternative NGA). We believe it would be useful for the Commission to provide guidance on when an NRA may consider the question as to whether adequate infrastructure exists or is likely to emerge and in which case an NRA may forebear from regulation.

At the opposite end, in the isolated, low density, rural areas (so-called white area), no spontaneous private sector investment can be expected, even in the long-term, due to mere return on investment constraints (such areas often lack earlier generation broadband coverage). Regulation will not be able to respond to the problem and the role of public authorities will be crucial in these so-called policy driven areas.

Finally, between the market-driven and the policy driven areas, there is a large area representing the high risk "grey areas". In these areas, the incumbents face regulatory uncertainty as the specifics of ex-ante regulation, once put in place, can significantly damage their business case. On the other hand, most of the alternative players that have invested in the unbundling of the local loop face the high sunk costs in physical infrastructure (ducts, poles etc) made by the incumbents. This is the situation where most detailed analysis and guidance is required.

3 The need for an overarching vision

We welcome the current important move, however we believe that there is a need for the articulation of an overarching vision for the regulation and promotion of NGA investments and had hoped that the Commission may have been able to use the proposed Recommendation as a vehicle to achieve this. In particular we believe that a holistic approach involving the setting out of guidance on the application of symmetric remedies and State Aid rules to investments in NGA together with an elaboration of asymmetric remedies applied to operators with SMP is highly desirable at this stage to promote the maximum possible clarity enabling operators to make clear and early investment decisions. We understand that the proposed Recommendation is however restricted to the market analysis and application of asymmetrical remedies. If it is not possible to consider expanding the scope of the present Recommendation then we would propose that the Commission considers issuing an accompanying Communication to address this overall 'framework' as soon as possible. In any case we believe that time is of the essence in revising the present Recommendation as necessary and its publication.

4 Promoting true NGA over upgraded copper networks

We welcome the analysis of the Commission which recognises that current copper networks are becoming obsolete and that they will not be capable of significant further upgrade to respond to the continuous increase in demand/ need for bandwidth. Some stakeholders however claim that the current copper networks are still able to respond to the future challenges by simply upgrading them (mainly via VDSL - FTTN). However in order to achieve this the length of the copper sub-loop has to be continuously shortened. We believe that in order to deliver speeds greater than 100Mbps which is already being offered to customers with FTTH connections and which can be forecast to be a ubiquitous need in less than 5 years (Nielsen's law), copper sub-loop lengths would have to be reduced to significantly less than 100m. Although theoretically higher speeds or longer distances could be achieved, practical limitations arise from the quality of the copper loop and radio frequency interference. As a result fibre to the premise is the only foreseeable technology with significant future proofing and its deployment needs to be anticipated now. Although incumbents and other operators may choose to initially deploy FTTN networks for reasons of cost and speed of deployment or even in response to the regulatory regime, we believe that it is particularly important that the regulatory regime should support other operators to bypass such FTTN networks with an FTTH deployment, particularly by ensuring the availability of suitable passive remedies (ducts etc) and that cabinet deployments do not block fibre bypass. We believe that it would be wrong to assume, or indeed support by regulation, the view that alternative operators will adopt a follower strategy to the deployment of the incumbents.

5 Infrastructure based competition is favoured

We fully support the approach of the Commission which favours infrastructure based competition over service based competition. Although this has been set out in the current Framework as a principle, we welcome its inclusion as a founding principle of the approach to be adopted towards NGA regulation. In line with the Commission, we recognise that this will likely not happen on a nation wide level. However, we support the Commission approach which seeks to establish infrastructure competition first wherever possible and leave service competition to only those areas where infrastructure competition cannot be expected to naturally emerge over a reasonable timeframe.

6 Geographic Analysis

We believe that investment and competition will emerge at different rates depending on the business case which is a strong function of both local demographics as well as localised competitive intensity (eg presence of cable). It is therefore important in our view that NRAs analyse the market with this in mind and apply appropriate geographically differentiated remedies. While the draft Recommendation proposes that NRAs may consider this, we believe that a stronger recommendation to consider geographic differences in the market would be appropriate. It may also be desirable to develop some common tests or to outline characteristics which would determine whether Market 4 in particular could be considered competitive, thus removing the need for remedies to be applied to both Markets 4 and 5, recognising that the number of infrastructure based competitors is likely to be lower than existing numbers of WBA based competitors.

As a possible scenario it may be appropriate at this stage for NRAs to undertake a national analysis of Market 4 and where competition is found or expected to be adequate for there to be no regulation of Market 5. If one considers a national bitstream offer as necessary to ensure national coverage for business users, then in such areas there should be no price regulation. We return later (Section 10) to the nature of bitstream remedies.

7 Gradation of remedies and the relationship between Market 4 and 5

We welcome the explanation of the gradation of remedies set out in detail in the explanatory note. The implementation of remedies by NRAs, and in particular the relationship between remedies imposed in the old Market 11 and Market 12 has not always resulted in a coherent implementation which has maximised the emergence of infrastructure based competition.

As a result we believe that the detail set out in the draft Explanatory Note would be usefully set out in the Recommendation itself. While noting and supporting that the Recommendation sets out an approach based on an analysis starting out at the lowest level with a clear linkage of the different remedies within market 4, we believe that it is important to go a step further and to clearly establish a linkage with geographic competition on market 5 as we have described above in Section 6. To elaborate further, in areas where infrastructure competition can be expected to emerge based on access to physical infrastructure alone then the imposition of further remedies including Market 5 remedies would not be appropriate otherwise there is a real danger of stifling the emergence of the desired competitive infrastructure investments. At the other extreme where any investment is unlikely without public investment such as in rural areas then bitstream remedies alone would be appropriate in combination with equality of input conditions. We return to this in Section 10 of our response.

8 Concentration points

We note the Commission's recommendation that NRAs should analyse the market and determine a point after which it may be appropriate to consider either unbundling of an SMP operator's fibre to the customer or a similar symmetric remedy under Article 12 of the Access Directive. We note two issues in relation to this: firstly the competence of the various NRAs in relation to in-building wiring and private premises which may require the use of other legislative instruments (as in France) and secondly that in order to ensure end to end infrastructure competition together with the ability of customers to purchase unbundled services from more than one operator, it will be necessary to mandate the installation of a sufficient number of fibres to each premise from the concentration point.

A clear definition of the term concentration point is necessary to ensure that it is not subject to different interpretations. We believe that the concentration point location in so far as it is used to define the point after which asymmetric or symmetric remedies to grant access to dark fibre should be mandated should be located as close to the customer as economically possible, recognising that in more suburban and rural areas it may be located further back into the network from the customer. We would propose that the Recommendation be revised to clarify the definition of the concentration point as that point closest as economically possible to the customer from where an NRA should consider the imposition of asymmetric remedies for access to the fibre connection to the customer. In addition it would be helpful to review Clauses 14 and 15 where there appears to be some confusion over what is meant.

9 Copper retiral

We fully support the Commission's view that steps should be taken by NRAs to avoid the unintended consequence of requiring new copper to be installed in parallel with new fibre.

When it comes to legacy copper, it is important to recognise that the early withdrawal and decommissioning of copper has two beneficial impacts. Firstly it enables the early realisation by the incumbent of maintenance cost savings. Secondly it enables duct decongestion thus enabling lower cost access to civil infrastructure by other operators.

However, we note that the Commission has not significantly developed this critical issue in its Recommendation or the Explanatory Notice. We would recommend that as a minimum the NRAs and/or the Commission start as soon as possible to analyse this critical issue in detail and possibly propose a consultation in order to collect the view of all stakeholders including the companies who are specialised in these issues.

In areas where the access copper legacy network is to be withdrawn, it may be necessary therefore to mandate the replacement of *existing* remedies based on the capability of the copper local loop with a bitstream product enabling existing operators to maintain their *existing* product offering for a limited period of time. Regulation should not be used to remove or mitigate market hazard resulting from technology innovation. This would be a separate decision in relation to bitstream remedies from that to be taken as part of the graded remedies approach discussed in Sections 6 and 7.

10 Bitstream access and the development of infrastructure based competition

We have already noted in Sections 6 and 7 that we believe it will be inappropriate to impose bitstream remedies where there is sufficient competition in Market 4. This raises a question of timing because it will not immediately be obvious where the market will be able to support infrastructure based competition. Too early imposition of a bitstream remedy on an SMP operator deploying FTTH may have the effect of discouraging further infrastructure investment. It may then be appropriate to consider restricting any bitstream offer to that already mandated for the existing copper based network in a similar way to that discussed in Section 9 (and only in those areas where SMP has been found based on existing copper based services) thus enabling alternate operators to maintain their existing business and encouraging them to make suitable further investments. Where there is no immediate infrastructure based competition and limited prospect of this occurring and consideration is being given to the mandating of enhanced bitstream services on the new fibre networks then great care will be required to ensure that prices are set appropriately. In the first instance this could be achieved by facilitating commercial negotiations between parties.

11 Fibre sub-loops and SMP

We are concerned that where the concentration point is removed from the immediate vicinity of the building entry then issues may arise about findings of SMP. Reliance on existing Article 7 provisions may not be effective in cases where the non-SMP operator has deployed fibre, for example where he has decided to deploy an FTTH network, leapfrogging an incumbent's FTTN network. We therefore recommend that access to fibre infrastructure after the concentration point should be based on symmetric remedies alone.

12 Transparency

We welcome the Commission's proposals for the mandating of clear Reference offers which will provide the necessary information to enable competitors' investments.

13 Pricing

We strongly support the view that in the case of new investments in NGA, regulation should aim to promote infrastructure competition wherever possible with access prices safeguarding investment incentives because this will lead to self-sustaining competition and has the potential to lead to a complete removal of sector specific ex-ante regulation Furthermore these measures should promote the immediate and widescale NGA investment which is required. In view of the very significant scale of the required investments and the degree of uncertainty at this stage in assessing likely returns the inclusion of an appropriate additional project specific risk premium in determining access prices as set out in the Commission's proposals is to be welcomed.

14 Conclusions

We believe that it is necessary to carefully balance regulation of NGA in order both to maximise infrastructure based competition and also to ensure that investments are made in a timely manner across the EU in order to maintain European competitiveness and to ensure that the objectives of the Lisbon agenda are achieved.

We welcome the Commission's clear statement that the first goal should be infrastructure based competition which is superior to service based competition. We also welcome the necessity to clearly link market 4 & 5 which is obvious in the current regulatory framework but has not been uniformly applied up to this point by the NRAs. We also welcome the concept of gradation of remedies which would establish the need for NRAs to start their analysis at the deepest level and move up step by step. We believe that adoption of a graded remedies approach as set out will enhance harmonisation and business certainty by setting out a clear process for analysing NGA markets which of course will continue to allow NRAs the necessary flexibility to deal with national and geographic differences in the market.

While the gradation of remedies within market 4 appears clear in the document in relation to FTTH deployments, the relationship between market 4 and 5 is relatively weak. This may open the door for NRAs to mainly focus on market 5 while leaving market 4 out of effective regulation. Consequently, the situation may become very similar to the current position where some NRAs are giving clear signals that they favour infrastructure based competition over bitstream where others are giving the reverse message to the market. We believe this should be avoided if at all possible and clarification of the Recommendation as we have proposed would be helpful in this regard.

In summary in order to maximise the potential for infrastructure based competition and to establish the regulatory certainty necessary for sustainable investments to be made we believe that it is important for a geographically focused, tiered set of remedies to be set out which link both Markets 4 and 5, thus establishing clear guidelines for the regulation of NGA networks. We welcome this broad approach in the consultation draft and have proposed some clarifications around this which we believe will enhance clarity and improve the outcome for European NGA deployment.