NGA Working Group 3
6 Common Measures
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Measure 1: Civil infrastructures database

Current situation

Last Commission Recommendation on regulated access to Next Generation Access Networks (2010/572/EU) defines a list of data to be reported to National Regulatory Authorities (NRAs) (available ducts, local loop facilities…), especially for civil engineering infrastructures owned by Significant Market Power (SMP) Operators (introduction, paragraph 12). This recommendation remains limited to SMP operators works and to already deployed infrastructures.
It also mentions NRAs obligation to work with other Authorities with the objective of developing a database gathering geographical and physical data on every civil engineering infrastructures (article 17 – "(…) a *database providing information on location, available capacity and other physical characteristics of all civil engineering infrastructures which could be used for optical fibre networks deployment"*).
Local legislation does exist. In France, for instance, the NRA has already gathered all kinds of data that allow actual sharing of the terminating segment (*Décret* 2009-52/L.M.E.), including: address, owners contacts, works and wires installed, contact person at the operator in charge of installation.
In Portugal, a global civil infrastructures database is being implemented by the NRA, in the form of an extranet.

Rationale for the measure and key benefits

Even though the conditions in each European country may differ, a simple and fast access to up-to-date, reliable and exhaustive civil infrastructures data could directly accelerate the NGA roll-out, but also would significantly increase the opportunities for synergies and cost reduction when it comes to using existing civil infrastructures and deploying new ones.
The existing Recommendation should therefore be enforced in all countries:

- SMP players obligation to report all relevant data to NRA
- NRAs obligation to develop a database of all existing civil infrastructures which might be NGA compatible

Also, the Recommendation could be explicitly extended in several ways:

- Including all telecom compatible civil infrastructures owned by any telecom operators, local authorities, utilities…
- Including a forward-looking perspective, with a list of future (over a 24-month period) civil engineering works
- Including all aerials, including poles
- Including data about house/building owners and the typology of buildings (number of apartments, number of floors…)

The database should not include commercially confidential data – e.g. clients connected

Recommendation number 1

(1) Member States should implement a public database – accessible and filled via the Internet – providing:

- **An exhaustive and public list/mapping of all available telecom-compatible civil infrastructures[1], including aerials** – directly filled in by all relevant companies and public authorities
- **A centralized list of future civil engineering works** (over a 24-month period) – directly filled in by all relevant companies and public authorities – including aerial infrastructures
- **A centralized list of data relative to houses and buildings (owners, trustees, building topology…)** – mandatorily filled in by trustees or by individual owners identified through Public tax databases

NRAs will be in charge of building and publishing this database at the national level – in the form of an extranet whose access will be strictly limited to interested parties.

[1] *Cable operators do not support this point and would prefer to replace "telecom-compatible" by "non-telecom"*

Measure 2: Facilitated access to civil infrastructures

Current situation

Last Commission Recommendation on regulated access to Next Generation Access Networks (2010/572/EU) generally refers to telecom Operators' infrastructures, not for all kinds of civil infrastructures – except article 17.
Currently, several industry players call for a single legal framework focusing on all civil infrastructures potentially compatible with NGA roll-out. Indeed, civil infrastructures may depend on different laws in each country – eg. Telecom law, property law…
The industry reveals a lack of cross-sectorial competences of National Regulatory Authorities (NRAs). Legislation needs to be improved to allow a cross-sectorial usage of all appropriate ducts (including ducts owned by utilities or local authorities).

Rationale for the measure and key benefits

In complement of Measure 1, this Measure aims at encouraging and promoting actual roll-out coordination but also facilitating the access to available civil infrastructures to players or group of players considering deploying a NGA network.
All industry players agree on the opportunity to coordinate with non-telecom civil infrastructures, either owned by utilities or public authorities. This could convert into an obligation to grant access to available civil infrastructures at commercial conditions, to create a completely transparent "hosting market" and to enforce a public consultation process to coordinate civil infrastructures owners and telecom operators when new civil works are planned.
An extension of the regulation to aerials (including poles) should be included. This should be valid for all purposes, including for mobile backhaul.
Also, some players are in favour of an extension of these recommendations to all telecom operators, including non-SMP players.
It is to be noted that having access to civil infrastructures may not be feasible, may be unattractive or unworkable in some markets. Therefore, this measure should be used where appropriate.

Recommendation number 2

(1) For all available telecom-compatible civil infrastructure – Each company owning telecom-compatible infrastructures will publish on a dedicated platform developed by NRAs a public reference offer at cost-oriented prices with a risk-premium [1] [2]

(2) Member States should define where and at which conditions to grant access to aerial infrastructures

(3) For all planned civil engineering works – Henceforth, each alternative utility company will have to consult telecom operators with the view of facilitating NGA roll-out through wires hosting. NRAs will support coordination between all utilities and telecom operators through clear regulation and models of bilateral agreements

Valid for all purposes, including for mobile backhaul.
[1] Pricing mechanism should remain a decision of NRAs
[2] Cable operators do not support this point and would prefer to replace "telecom-compatible" by "non-telecom"

Measure 3: Mandatory fibre in-wiring deployment by building owners

Current situation

Last Commission Recommendation on regulated access to Next Generation Access Networks (2010/572/EU) explicitly refers to Directive 2002/21/EC – amended by Directive 2009/140/EC – and measures related to the sharing of the terminating segment of the SMP Operator.
National Regulatory Authorities (NRAs) should have the power to enforce decisions when it comes to the sharing of wiring inside buildings or as far as the first concentration or distribution point where this is located outside the building, *"where this is justified on the grounds that duplication of such infrastructure would be economically inefficient or physically impracticable"*. Where necessary, NRAs should have the power to mandate the sharing of the terminating segment in non-SMP situations – under article 12 of Framework Directive.
This Recommendation implies that the terminating segment, including the fibre in-wiring, is deployed by telecom operators.
However, in all European countries, the deployment of the in-building connection to utilities' network (gaz, electricity…), while it may be realized by utility companies, legally remains under the sole responsibility of building owners. Focusing on NGA, in Sweden, in very costly areas, the "village community model" seems to be successful: to reduce the cost of fibre deployment for network owners, both consumers and companies in a given village, jointly make a part of the material deployment, thus allowing the price for getting access to NGA to stay at an affordable level.

Rationale for the measure and key benefits

It is acknowledged by all industry players that the duplication of fibre in-wiring leads to operational complications – e.g. with the installation process or the ownership of wires – and is considered as economically inefficient, and detrimental for roll-out acceleration. There is therefore a consensus that there should not be several parallel fibre in-wiring.
For networks deployed and paid by telecom operators, the current recommendation and guidelines are sufficient.
However, many issues relating to fibre in-wiring remain:

- The deployment of fibre in-wiring is very costly (civil engineering works and fibre in-wiring representing up to 80% of the total cost of deployment)
- Vertical roll-out authorisations may be complicated and time consuming to get from building owners
- In some countries, property of fibre in-wiring is not always clearly defined and may evolve over time

All these issues are hindering the NGA roll-out.
Therefore, it is recommended to specify that (already built or under construction) building owners, should be legally responsible for the deployment of fibre.

Recommendation number 3

Member States will establish appropriate legislation to:

(1) Make mandatory for owners of all already built buildings to deploy (and contribute to 50% of the financing of) fibre in-wiring to which all inhabitants and telecom operators can connect, 5 years maximum after the NRA has declared that the building is ready to be connected (building "passed" horizontally – may depend on local topography)

(2) Make mandatory for owners of all buildings under construction to make sure that fibre in-wiring is deployed and that future inhabitants and telecom operators are able to connect to it

Measure 4: Direct financial incentives to end users

Current situation

Having the responsibility to deploy the in-building connection to utilities' network (gaz, electricity…), building owners directly contribute to this deployment financially. There is no specific tax incentive associated to this connection. Moreover, utility companies generally do not pay the end users to connect their own network to the in-building network and have access to it.
However, tax incentives, in most countries, are available for owners choosing to use some energy saving technics in their home (thermic isolation, solar panels…). Promoting fuel efficient vehicles is another example from the car industry. Several measures promote fuel efficient vehicles through the promotion of clean and energy-efficient road transport vehicles (Directive 2009/33/EC) and through energy end-use efficiency and energy services (Directive 2006/32/EC). Such incentives consist of tax reductions and exemptions, as well as of bonus payments for buyers of plug-in electric vehicles and hybrid vehicles.

Rationale for the measure and key benefits

Measure 3, giving the obligation to building owners to deploy fibre in-wiring in their premises has a potential high financial impact on them, with a risk to jeopardize the demand for fibre connectivity and innovative services.
Therefore, there is a strong rationale for granting direct financial incentives to building owners installing fibre in-wiring:

- Lowering the financial impact on users
- Fostering demand by encouraging users to move to NGA
- Being neutral towards telecom operators, since the fibre in-wiring would be the property of building owners (see Measure 3)
- Having the possibility to scale the tax incentives with regard to owners' revenue, to time of deployment (more incentives the first year after the building has been declared connectable by NRA for example),…

To have access to these financial aids, building owners would have to make sure to grant an open access to all telecom operators seeking to connect to their fibre in-wiring.
In remote areas, where Measure 3 combined with these incentives would not be sufficient to guarantee a reasonably pricing NGA offering for the end users (due to the cost to connect the building itself), additional subsidies, directly aiming at reducing the retail pricing could be useful.

Recommendation number 4

(1) Member States will implement direct financial incentives to building owners to recover at least part of the cost of fibre in-wiring deployment (tax incentives, low VAT rate for last mile connection fees…) – exact definition of these financial incentives remains a country by country decision
In exchange, open access to fibre in-wiring should be given to all telecom operators

(2) When telecom operators invest themselves for deploying fibre in-wiring, the tax incentives could be transferred to the companies

(3) Public incentives to compensate higher retail prices in areas with abnormally high "horizontal" NGA roll-out costs

Measure 5: Corporate tax incentives

Current situation

Tax incentive has already been enforced in many European countries to support investment in innovative products and usage.

For instance in the electricity market, the Directive on the Promotion of Electricity produced from Renewable Energy Sources (RES-E) in the internal electricity market, is the main legislation affecting RES-E at the EU level (2001). The Directive aims at facilitating a significant increase in RES-E production within the EU. Member States have implemented different types of support schemes including tax exemptions and investment incentives.

Focusing on NGA, in Portugal, a NGN protocol has been designed, which i) allows tax deduction for corporate tax (up to 25%) of 20% investment in NGN up to € 5 million and 10% of investment over € 5 million; ii) increases from 20% to 35% the tax deduction of expenditure incurred on R&D related to NGN

Rationale for the measure and key benefits

Direct financial incentives will encourage investment in infrastructures and these incentives are expected to be equally beneficial to all parties, without altering the competitive balances between Operators.

Also, without innovative services that are specific to NGA networks, it is probable that there will be a very low ARPU increase moving from copper-based to fibre-based offers. Incentivizing the development and use of innovative services is key to improve the expected profitability of NGA projects and thus foster the roll-out.

Among others, public services may significantly benefit from the development of NGA (e-government, e-health...)
NGA may also contribute to reduce CO2 emissions (tele-working, video conferencing...). Companies developing and using these types of services could be clearly identified as priority recipients of tax incentives proposed in this Measure 5.

Recommendation number 5

(1) Member States will implement tax exemptions for companies investing in long-term NGA infrastructures or in the development of innovative services in line with the Digital Agenda objectives

(2) Additionally, companies making an extensive use of these innovative services (e.g. teleworking) could also benefit from these tax exemptions

Measure 6: Focus on risk-sharing between the EIB and the EC

Current situation

Today, most investments in broadband infrastructure are driven by competitive pressures which typically concern areas requiring relatively low capital expenditures per household (i.e. densely populated areas). Many good ideas but few concrete Fiber-To-The-Home (FTTH) projects outside of densely populated areas are presented to the European Investment Bank (EIB). This is mainly because in such cases industry has been unsuccessful in presenting investments with compelling business plans and financial commitments.

Projects concerning densely populated areas are typically carried out as standard corporate operations for both the incumbents and alternative operators. In this case, the network assets are financed on the balance sheet of the promoters either via cash of operations or corporate debt. Incumbents generally support the view that wider roll-out of fast speed broadband should happen over time, involving different technologies and financed generally as standard capital expenditure (CAPEX) program for the promoting entity. At present, some incumbents are better positioned that others to generate sufficient cash or raise additional debt to support larger CAPEX programs.

Some argue that projects with viable business plans outside of densely populated areas could be structured as project finance operations with a co-investment vehicle being the potential special purpose entity to raise the financing, being debt or equity. Various structures along these lines have emerged over the years which can be summarized in three main categories – purely private projects, Public Private Partnerships (PPPs) or community-driven projects. Many such projects have difficulties attracting financing mainly because: (i) the risk is often considered too high for many private investors, (ii) the expected return on investment is considered too low for the level of risk involved, (iii) the time horizon of these investments is considered too long, and/or (iv) they lack critical size.

EIB is a non-for-profit banking institution supporting European Union (EU) policies. The projects promoted by private and public clients of the EIB must be in line with its lending objectives and be economically, technically, financially, and environmentally sound.

Rationale for the measure and key benefits

A majority of stakeholders agree with the fact that public financing should be the critical factor in the extended roll-out of fast speed broadband outside of densely populated areas. Industry generally agree that for economically beneficial but riskier projects, there is a need for reasonably priced risk-enhancing instruments at project level which in turn could be catalyst for attracting additional private financing. Additionally, credit facilities available for riskier counterparts should also be available to continue to support on-balance sheet investments in fast speed broadband networks.

If EIB is to respond to the requirements of the industry to provide financing to financial risk mitigating, being structured as corporate or project finance operations, the need for adequate capital protection and sharing of risk will be of the essence.

The success of existing risk-sharing schemes jointly developed by the EU and the EIB group such as the Loan Guarantee Instrument for Trans-European Transport Networks (LGTT), the Risk Sharing Finance Facility (RSFF) and the instruments of cohesion policy (JESSICA, JASPERS, JEREMIE) should be built upon in order to meet the Europe 2020 policy objectives, including the Digital Agenda. Certain broadband infrastructure projects could also fall within the project profile targeted by the Europe 2020 Project Bond Initiative.

Leveraging public funding has proven that the concept of risk sharing can provide both flexibility and scale in a simple, accountable and transparent matter. Additionally, expected effects of financial regulation would inevitably take its toll on the availability of private funding for future broadband projects. Therefore, risk-sharing mechanisms allowing leveraging public funding by enhancing the utilization of capital for both private and public financing institutions should prove to be beneficial for both project investors as well as financiers.

Industry and policy makers agree that the risk-sharing model should be utilized in broadband investments thus allowing EIB to provide volume, longer maturities, attractive financial conditions and credibility.

Recommendation number 6

(1) Provision public funding (including structural funds) to be used in risk sharing mechanisms between EIB and EC, which would allow EIB to provide higher risk financing at appropriate terms and conditions to viable telecom infrastructures projects.

(2) Expand the current RSFF's (risk sharing between the EU and the EIB) investment capacity and eligibility to innovation and broadband investments.