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Case Studies on PPP arrangements for Telecommunications: taking a photo of infrastructure using phone

Case Studies on PPP arrangements for Telecommunications

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Ethiopia Telecommunication Liberalization

In 2019, the Government of Ethiopia embarked on a strategy to ignite its digital economy and provide more homes and businesses with access to reliable high-speed telecom services, and, in May 2021, the country's first competitively tendered telecommunications license was awarded to the Global Partnership for Ethiopia (GPE) consortium.

Kenya Konza Technology City (KMIP)

Konza City, a tech hub south of Nairobi, will be developed in 4 phases over 20 years. The project was expected to mobilize at least $500 million in private investment and generate 15,000 jobs in the first five years. See IFC Public-private partnership stories.

City of Amsterdam's CityNet venture with Reggefiber and Municipal Involvement in Fiber Buildouts in Sweden

The role of Reggefiber in the Netherlands, which initially emerged in the telecom sector from a commercial real estate development background, and its collaboration both with the incumbent service provider KPN in Amsterdam and with various local municipalites in the Netherlands warrants much closer attention. Case study material from Sweden concerning Stokab and from Switzerland relating to various collaborative ventures between electric utilities and telecom providers should also be more closely assessed.

Relevant Documents:

- Next Generation Connectivity - A review of broadbank internet transitions and policy from around the world (February 2010): An independent expert review conducted by Berkeman Center for Internet & Society for the benefit of FCC (Federal Communications Commission).
- Report on Next Generation Access - Economic Analysis and Regulatory Principles (June 2009): Produced by the European Regulators Group (ERG), this report discussed current regulatory developments in the European Union addressed to the economic and technical challenges and various PPP practice at the local level to build out fiber infrastructure in collaboration with local communities.
- The Economics of Next Generation Access—Final Report (September 2008): In this study for the European Competitive Telecommunications Association (ECTA), public private partnerships are presented as an effective vehicle for achieving "open access" to multiple competitors.
- European Commission Final Decision on the State Aid Case C 53/2006 (Investment by the City of Amsterdam in a fiber-to-the-home network)

European Guidelines Relating to State Aid in Municipal Involvement in Fiber Build outs

On September 17, 2009, the European Commission adopted Guidelines on the application of EC Treaty state aid rules to the public funding of broadband networks. The Guidelines provide what the European

Commissions believes will be a clear and predictable framework for stakeholders and will help EU Member States to accelerate and extend broadband deployment. The Guidelines also contain specific provisions concerning the deployment of Next Generation Access networks, allowing public support to foster investment in this strategic sector without creating undue distortions of competition. The Guidelines take account of comments received during a public consultation.

Relevant Documents:

- State aid: Commission adopts Guidelines for broadband networks – frequently asked questions
- State aid: Commission adopts Guidelines for broadband networks
- Community Guidelines for the application of State aid rules in relation to rapid deployment of broadband networks

OECD December 9, 2009 Concept Paper on Network Developments in Support of Innovation and User Need

This report makes a case for investment in a competitive, open-access national fibre-to-the-home network rollout based on potential spillovers in four key sectors of the economy: electricity, health, transportation and education. The various potential fiber-based applications utilizing fiber network infrastructure are described in detail in the report. This research offers a new approach to evaluating the costs of building the most forward-looking network possible by evaluating what short-term cost savings (benefits) would have to be achieved in other key economic sectors to justify the investment. On average, a cost savings of between 0.5% and 1.5% in each of the four sectors over ten years resulting directly from the new broadband network platform could justify the cost of building a national point-to-point, fibre-to-the-home network, according to the report. The report also includes a useful annex including key costing assumptions to evaluate the investment and estimated financial and social returns required to justify fiber to the home networks in different market settings.

National Broadband Network (NBN) Plan in Australia

A rich body of material is available online providing background information on the Australian Government's initiative to establish a National Broadband Network (NBN) that would build out fiber infrastructure to be made available to service providers on a wholesale basis. The details of the build out plans including descriptions of different initial locations to be served by the NBN are available on line and through a wiki resource. This is a very significant template for public private partnerships that will be closely followed around the world.

Relevant document: Paul Brooks, NBN Project Briefing Architecture Reference Model

Innovative Financing Mechanisms for the Water Sector

This paper discusses innovative mechanisms for financing water sector project that in all likelihood are also relevant to small scale build-outs of Last Mile fiber infrastructure in rural areas. It discusses potential mechanisms at the national level to finance smaller scale local projects as well as means of aggregating similar projects for financing through upstream financial distribution channels. Some of these techniques are currently being explored through public-private partnerships in rural New Hampshire. The OECD paper discusses ways that grant funding can be linked with private financing and that private financing can be incentivized through loan guarantees. The use of leasing versus traditional bonding is another topic worth further exploration and is likely to be utilized in financing broadband build outs in central Vermont in the United States.

ECFiber Initiative to Buildout Fiber Infrastructure in 22 towns in Central Vermont

The ECFiber initiative is an effort by 22 towns in central Vermont to join together to accelerate access to high speed fiber infrastructure in communities in which only moderate speed connectivity is available only in several larger towns from cable companies with dial up connectivity the only option in other locations; and the incumbent telephone company, FairPoint which acquired the copper wire network of Verizon in Northern New England, is in the midst of Chapter 11 bankruptcy and has been severely hobbled in its ability to provide high speed connectivity. FairPoint's situation may be similar to other incumbent, wire line telephone companies around the world that face severe financial and organizational constraints in providing Next Generation fiber infrastructure.

ECFiber is an example of grass roots level push from local communities for much higher speed connectivity than is likely in the near term to be provided by existing service providers. It is example of user-driven potential competitive pressure on traditional inter-model competitors—cable operators and incumbent providers with little impetus to catch up the pace and speed of fiber connectivity.

ECFiber is structured to operate on the basis of an Inter-Local Agreement among the participating towns, rather than through a single separate operating entity; and service would be offered on the basis of a Design Build Operate contract with a nonprofit service provider known as Valley Net.

In face of adverse financial market conditions, EC Fiber was unable to complete in the fall of 2008 a public offering of certificates of participation (COPs) in a capital lease that would have financed the build out of the system. Subsequently, ECFiber attempted unsuccessfully to obtain highly leveraged low interest financing from the Rural Utility Service of the Department of Agriculture in Round 1 of broadband stimulus applications. It would have obtained access to required equity and start up capital through a private placement. However, the ARRA stimulus funding procedures appear to have significantly disfavored start-up community-based entrants; and thus ECFiber may have to return to private markets in another effort to access the COPs market once financial markets further stabilize.

Many aspects of the ECFiber initiative provide fascinating case study for a bottom up, community driven approach to utilizing a public-private partnership model.

New Hampshire Fiber Network Consortium as Model for Public-Private Partnership

The fiber infrastructure of the rural State of New Hampshire is significantly underdeveloped—a legacy in part of Verizon's reluctance to prioritize investment in upgrading its Northern New England copper wire network and its decision to sell all its wire line telephone assets to a small North Carolina telephone company, FairPoint Communications. The New Hampshire Fiber Network Consortium (NHFNC) is a public private partnership established by the University System of New Hampshire, together with the Community Development Finance Authority in NH and a newly created fiber build out entity known as FastRoads New Hampshire, to apply for broadband stimulus grant funding together with two or more private sector providers of fiber network capacity who would provide private matching funding for the federal grant.

NHFNC will be structured in a similar manner to a "fiber condominium". The public participants will each be allocated a block of fiber strands and will have an equity stake, the size of which is yet to be determined, along with private participants in NHFNC, who will be assigned a block of fiber to offer to users on a commercial basis. The new fiber infrastructure will be designed with off-ramps for anchor institutions as well as nodes for town-by-town Last Mile fiber connections that would be made available on a wholesale basis by FastRoads New Hampshire and others to retail service providers in return for payment for use of the local infrastructure.

Relevant documents: Fastroads overview- the need for big broadband

FastRoads NH as Model for Public Private Partnership in Last Mile Buildouts in New Hampshire

The New Hampshire FastRoads business model has been developed with support from Community Development Finance Authority in NH, which has traditionally been involved in housing and community development projects. It has close working ties with towns and other local communities and an established track record of aggregating public and private sources of financing. In implementing the FastRoads model, CDFA has worked closely with regional economic development commissions and with a state entity known as the Business Finance Authority which, in the past, has acted as a financial advisor and agent for the State of New Hampshire in accessing private capital markets to finance community development projects at the state and local level. On an ad hoc basis, both CDFA and BFA have been involved as a project incubator for local broadband initiatives on the basis that the rapid evolution of high speed infrastructure is a key policy instrument for catalyzing community development and economic growth strategies at a local and regional level.

As the FastRoads model is evolved, it will rely heavily on a private partners for the construction and management of fiber infrastructure at the local level and on retail service providers (including cable operators or incumbent telecom operators) to generate cash flow to sustain a sequenced build out program. This program will rely on town-by-town or project segment-by-project segment (e.g. tranches of 100 miles of local build-out) build out projects that would be packaged and financed with local financial resources. These financing debt instruments would then be syndicated upstream to larger and more diversified financial institutions as part of an overall strategy of developing mechanisms for community development finance institutions (CDFIs).

FastRoads has significant similarities to public-private partnership structures currently in use in Sweden and the Netherlands. Like those public private structures, it is intended to be an “access neutral” model for high speed connectivity; however, it also potentially represents a significant model for “overbuilding” a legacy “copper wire” network by offering new sources of financing for new fiber to the home network architectures as well as a transition path for legacy telephone operators to migrate toward new business arrangements.

These grass-roots, user-driven business models that focus on overbuilds in response to intense community demand may offer a useful paradigm for rural or other local communities in market setting outside the United States, both in operational and financing terms.

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- Public-Private Partnerships for Transport
- Water & Sanitation PPPs
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