

Heads of Planning Scotland

Head of Planning

In 2014 Scotland Welcomes the World



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## SMART METERING – INFORMATION FOR PLANNING AUTHORITIES

I'm writing to you to inform you about the smart meter initiative. This is a key part of the UK Government's programme to cut greenhouse gas emissions, decarbonise the economy and support the creation of new green jobs and technologies.

The Scottish Government fully supports the roll out of smart meters to both householders and the non-domestic sector and believes that the subsequent greater understanding of energy consumption could lead to better targeting of energy saving measures.

Smart meters will also make a valuable contribution to Scotland's own target to reduce final energy consumption by 12% in 2020 as set out in Conserve and Save; the Energy Efficiency Action Plan for Scotland in 2010.

The smart metering infrastructure will form part of the UK's Critical National Infrastructure and one of the 40 projects in the UK's National Infrastructure Plan. Its deployment and timely delivery is particularly important to achieving a sustainable Scottish economy and meeting key Scottish Government priorities enshrined in the Climate Change (Scotland) Act 2009 and Low Carbon Scotland: Meeting our Emissions Reduction Targets 2013-2027 - The Second Report on Proposals and Policies (RPP2), and thereby support the transformation to a low carbon economy.

Some energy suppliers are already offering smart meters using their own limited systems and technologies. However, in order to meet the UK Government's requirement for all energy companies to install around 53 million gas and electricity meters at 30 million domestic and smaller non-domestic properties, a new national smart metering radio network will be required. In Scotland, this new radio communications network will be deployed and managed by Arqiva Ltd.



It is important that Local Planning Authorities engage fully with Arqiva at pre-application stage so that Arqiva can factor into the network deployment any anticipated planning matters as early as possible. As the aim is the provision of a network, it is important that collaborative working takes place to encourage development proposals emerging that can be supported by planning authorities. Planning authorities are, as normal, expected to apply the policies of their adopted development plans in the delivery of the aim of Scottish Planning Policy to achieve the right development in the right place but not to allow development at any cost.

Preparation of the network to date has been undertaken with regard to the previous version of Scottish Planning Policy. As of 23 June the revised Scottish Planning Policy will inform network preparation, as well as the relevant policies of adopted development plans. In this regard I would highlight Paragraphs 292 to 300 of Scottish Planning Policy which set out Planning Policy on Supporting Digital Connectivity.

Given the crucial nature of the smart metering radio communications network, planning authorities and Arqiva are asked to positively engage in the creation of processing agreements where a planning application will be required for new infrastructure. This will provide certainty about the timescale for the determination of planning applications. Local Authorities are crucial partners in delivering the smart metering radio communications network and helping to meet the Scottish Government's aspirations for a world class digital economy by 2020 and meeting carbon reduction targets by 2020 and 2050.

The planning process has an important role at a local level in supporting the deployment of this new radio network. We encourage a co-operative approach as the best way that the Smart Metering radio communications network can be delivered in your area, whilst minimising, so far as practicable, the potential impacts associated with the new wireless infrastructure.

**Annex A** contains a detailed note from **Arqiva**, the contractors who were appointed in September 2013 by the Department of Energy & Climate Change to deliver the roll-out of the radio communications network in Scotland who has an established track record in delivering and running critical national infrastructure and networks such as the UK terrestrial television network. The note provides detailed information and focuses particularly on considering any planning applications for new infrastructure required for a new national smart metering radio network which will be based primarily around the use of existing electronic communication sites.

Yours sincerely

Chief Planner

**Arqiva Guidance Note on plans for the radio communications network to support the mass roll-out of smart meters.**

**Who will provide the radio communications network in Scotland?**

In September 2013 the Department of Energy & Climate Change awarded the contract to deliver the UK radio communication network to the two Communication Service Providers who have established track records in delivering and running critical national infrastructure and networks. Arqiva will deploy and manage the smart metering radio communication network in Scotland. The timescale for the delivery of the network is 2020, although there is a requirement for Arqiva to provide 80% premises coverage by September 2015.

<https://www.gov.uk/government/publications/smart-metering-implementation-programme-information-leaflet>

The link below to the Arqiva website provides more details of Arqiva's smart metering communications technology which is based around long range radio using the 412 - 414 MHz radio spectrum that it has been licensed to use.

<http://www.arqiva.com/smart-metering/>

**What are the benefits?**

Smart meters will give consumers real time information on their energy consumption to help them control energy use, save money and reduce emissions. With greater visibility and understanding of their energy consumption, they will be able make more informed choices about which appliances to use and when. For example, a consumer seeing the power consumption associated with a tumble dryer might be encouraged to use a washing line instead or, perhaps, avoid operating the machine during peak periods of demand when electricity tariffs are higher. UK Government guidance on the benefits of smart meters and the smart metering system can be found at:

<https://www.gov.uk/smart-meters-how-they-work>

<https://www.gov.uk/government/publications/the-smart-metering-system-leaflet>

To be "smart", these meters will become continuously connected to a new resilient wireless radio communications network, in order to enable information to be sent and received 24 hours a day, 7 days a week. If we are to achieve the greatest possible changes in consumer behaviours, this communications connection will need to be robust reaching very nearly all energy meter locations, whether rural or urban.

## **What is needed for the radio network?**

A network of radio base stations needs to be built to provide the radio coverage that will be used to transmit and receive information sent between a customer's Smart Meter and their energy supplier. This will be achieved by antennas and other electronic communications equipment.

The antennas will transmit radio coverage to the local area and the equipment cabinets contain the electronic communications equipment and power connection required to enable the base station to operate. The transmission requirements, which will link the base station into the wider Smart Meter network, will be achieved by connection to underground fibre cables. In the rare occasions where this is not feasible, then the transmission link will be provided by a small VSAT dish, similar in size to a domestic satellite dish.

The main function of the mast, or the host building or structure, is to elevate the antennas above obstacles such as tall trees, buildings, or valley sides that would otherwise block radio signals and prevent coverage from being provided.

## **How will this be achieved?**

As you may be aware, Arqiva owns and operates the whole of the terrestrial television and majority of the radio networks across the UK. Furthermore, they own or manage many more sites that are used or capable of being used for electronic communications purposes.

Arqiva is, therefore, ideally placed to deploy the new radio network for smart meter communications based around their existing electronic communications sites or high structures suitable for such use. This is obviously consistent with long standing Scottish Government policy to minimise visual impact by avoiding the unnecessary proliferation of radio mast sites.

In some areas, however, for a variety of reasons new installations will be required. For example: the nearest existing sites are too far from certain properties; the signal from the nearest site may be adversely attenuated or affect by topography or natural or man-made features such as trees or high buildings; or the fabric of the properties is such that the signals will be unable to penetrate them, for example, because they are old thick walled buildings. Without some new installations a number of homes and businesses would not therefore be able to benefit from smart meters.

Within your Local Authority area there will therefore be an emphasis on utilising existing communication sites and where existing sites are to be used, this is likely to entail the installation of additional antennas and a small ground based or roof mounted equipment cabinet at each site and seen within the context of other existing operational communications equipment.

However to deliver the smart meter radio communications network there will be a need for new installations at other locations. These are likely to be shared with other operators where practicable or entail new structures placed on highway land of similar scale and appearance to existing street furniture or new apparatus on

buildings or tall structures. In some circumstances Arqiva will require more substantial infrastructure requirements, such as new ground based masts, to overcome more difficult coverage or terrain issues and other technical and operational constraints.

## **The Planning Process**

Arqiva will follow the normal planning processes that apply to the site specific circumstances and apparatus to be installed. Where appropriate, Arqiva, as an electronic communications code operator, will use permitted development rights set out under Class 67 of Part 20 of Schedule 1 of the Town and Country Planning (General Permitted Development) (Scotland) Order 1992, as amended. In some cases, therefore, the installation of apparatus will not trigger a specific requirement for planning permission.

Arqiva will make early contact with planning authorities to forewarn them of the broad implications for their areas and where practicable to do so. Arqiva will have already sent you a Network Deployment letter and schedule of sites required to deliver the smart meter radio communications network in your area and they have a dedicated Stakeholder Inbox that you can respond to if you have initial comments or observations of the planned radio network:

[smart.stakeholders@arqiva.com](mailto:smart.stakeholders@arqiva.com)

In due course you will be consulted on a site by site basis commensurate with the extent of works involved. As the radio network develops it is likely that there may be some changes to the indicated locations.

To bring forward the solution with any potential impacts kept to an acceptable level, Arqiva will follow established national planning policy and advice on sensitive siting and design as set out in Scottish Planning Policy (SPP) and Planning Advice Note 62 (PAN62) on telecommunications. As explained at paragraph 299 of the SPP, local authorities must acknowledge that technical requirements and constraints may limit the design and positioning possibilities. In this guidance note Arqiva sets out some of the technical requirements. Annex C of PAN62 further explains diagrammatically some of the factors that can affect radio signals and site selection which apply also to this network.

A major operational difference with other networks is that the smart metering network has to provide nearly 100% 'indoor' premises coverage across Scotland, which includes dense city and town environments and smaller dispersed rural communities, with different challenges.

In dense urban areas there is a greater need to have installations close to the premises being covered. There is, however, greater opportunity to use existing communication installations or other buildings and structures.

In rural areas there is a need to provide coverage to more dispersed communities over larger geographical areas, with fewer opportunities to share existing structures. This means that new radio base stations may have to be sited outside settlements but using tall masts to look over the area and provide the coverage required.