

SEI Response to CER Consultation CER/09/093 “Review of K factors & Supply Margins and Tariff Structure Review”

Introduction

Sustainable Energy Ireland (SEI) is Ireland’s national energy authority with a mission to promote and assist the development of sustainable energy. This encompasses environmentally and economically sustainable production, supply and use of energy, in support of Government policy, across all sectors of the economy. Its remit relates mainly to improving energy efficiency, advancing the development and competitive deployment of renewable sources of energy and combined heat and power, and reducing the environmental impact of energy production and use, particularly in respect of greenhouse gas emissions. SEI is funded by the Irish Government under the National Development Plan 2007-2013 with programmes part financed by the EU.

SEI Public Sector Programme

SEI has been working with industry and the public sector to improve energy efficiency and facilitate the attainment of national energy policy objectives and targets – as required by the Energy White Paper and the recent National Energy Efficiency Action Plan (NEEAP). The relevant public sector target is to achieve a 33% improvement in energy efficiency by 2020.

Through its public sector programme, SEI is working with Local Authorities, the ESB and the National Roads Authority, via a recently established Working Group on Public Lighting. This group has broad representation from sector participants and is currently identifying and evaluating the key issues and challenges in this area. Throughout 2009, SEI is also providing grant support to some public sector organisations for exemplar energy efficiency projects.

SEI wishes to input into the review of the tariff structure for public lighting (CER consultation CER/09/093) to ensure energy efficiency is considered.

Public Lighting

Public lighting performs an essential public good service, ensuring adequate illumination for traffic and public safety on roads and streets, and acts as a deterrent to crime and anti-social behaviour. There are an estimated 420,000 public lights in the Republic of Ireland, ownership of the vast majority of which now resides with local authorities. Altogether, they consume an estimated 150 GWh annually, accounting for ~50 MW of electrical demand, 80,000 tonnes of CO₂ emissions (0.15% of national CO₂ emissions) and €50m in energy and maintenance costs.

Public lighting is mostly un-metered, with billing based on a flat rate for each lamp type based on an assumed operating regime (e.g. 4,150 dusk-to-dawn burn hours per annum).

In recent years, new lighting technologies have emerged – and have been adopted – that offer improved lighting, energy efficiency and reliability for public lighting applications (e.g. LED and compact CFL). Modern lux / photocell controls now have options other than simple 70 lux on/off; indeed, there are already some public lighting schemes in Ireland that have varying lux

levels depending on time of day. Consideration is also given to lighting levels based on traffic volumes. Initial indications show that a 20% – 30% saving in energy use and cost is achievable.

Current Tariff Structure: Hindering Energy Efficiency Improvements

A key drawback to the deployment of these technologies is that the existing un-metered public lighting tariffs make no adjustment for reduced electrical demand when certain energy efficient fittings are used, or when lighting levels and/or burn hours are reduced. SEI suggest that the current tariff structures are too rigid to incentivise investment in energy efficient public lighting options.

The Working Group is examining current practices, reviewing best practice internationally and engaging with stakeholders, to ascertain what changes are possible to promote investment in cost-effective, energy-efficient public lighting projects. This review will be complete by the end of the year and it is proposed that the results will be made available to the CER.

SEI and the Working Group would very much welcome liaising with the CER to consider any public lighting tariff modifications in the context of energy efficiency.

Review of Public Lighting Tariff Structure

This tariff structure review is welcome and opportune in the context of the activity of the Working Group. SEI recommends that any public lighting tariffs review should take account the following:

- The vast majority of the public lighting network is un-metered and embedded within the regulated electricity distribution network.
- Modern options for public lighting systems, including recent technology developments and international best practice, can provide effective lighting more efficiently, in some cases by adapting light output – and therefore energy consumption – to suit conditions. The rate of development in this area is rapid with new products being released on an ongoing basis.
- The existing public lighting tariff structure is based on fixed operating regimes that cannot account for the reduced energy consumption of several modern public lighting technologies. The current structure is therefore hindering the deployment of more efficient public lighting solutions.
- A well designed public lighting tariff structure would encourage and accelerate investment in cost-effective, energy-efficient public lighting solutions, while also better aligning supplier charges with the actual amount of energy consumed. It could also facilitate independent suppliers becoming more active in the market.
- Independent validation of appropriate public lighting technologies is an option for lighting systems that are billed on the basis of un-metered tariffs. (In the UK, some of the issues discussed here have been addressed by the independent validation of specific lighting types, which facilitates reduced tariff charges for those lighting units incorporating the validated energy efficient technologies. For example, where lighting adapts to road and traffic conditions, a validated self billing system is used.)

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