

SCOTLAND'S NATIONAL PLANNING FRAMEWORK 4 THINK PIECE – BLOG – OUR ENERGY SYSTEMS

Introduction

The Scottish Government is keen to bring together views and ideas from a wide range of sectors and to explore the priorities Scotland's fourth National Planning Framework (NPF4) should address.

In the eighteenth in a series of Think Pieces, Tim German, a Senior Manager - Government & Regulator Relationships at Energy Systems Catapult, sets out his thoughts on Scotland2050 and specifically our energy systems. The opinions expressed are that of the author and we hope that they will stimulate debate and discussion. Think Pieces will be published each day this week.

The issues and opportunities:

Scotland has the ambition and opportunity to demonstrate leadership in achieving a 'net zero' energy system which is clean, secure and affordable. Transforming Scotland's energy system will require integrated and optimised solutions, connecting previously siloed systems including power, heat and transport, as well as new digital infrastructure, markets, policy and regulation.

These integrated solutions must consider technology, people, business models, market mechanisms and much more. While realising opportunities for clean growth innovation, it will be important to find: (i) the appropriate balance between opportunity and risk, (ii) recognise the dependency of our economy on security and affordability of the system today, and (iii) manage the inevitable trade-offs and conflicts that will arise as we accelerate action to deliver net zero.

This approach requires effective planning and coordination across the whole system in order to understand how, and at what cost, Scotland can deliver net zero. This means considering all generation, transmission and supply of energy across all vectors including heat, electricity, transport and increased integration of hydrogen and vehicles into the system

The future net zero energy system will need to be more democratic, digitalised and decentralised. It will require policy and regulation that supports the integration of physical, digital and market elements of infrastructure in order to achieve rapid technological and societal change.

Local areas will play a critical role in driving the transition to a more democratic and decentralised low carbon economy. They effectively connect social need, the built environment and transport infrastructure.

Cost effective, zero carbon, smart local energy systems will:

- require a combination of different solutions across Scotland
- take account of existing infrastructure, resources, homes, buildings, industry and low carbon vehicle charging¹

- represent a significant opportunity to achieve net zero whilst driving clean growth
- Improve the quality and energy performance of both new and existing housing, delivering warm and comfortable homes and tackling fuel poverty.

Scotland has made good progress through initiatives such as LHEES ¹. However, taking a data driven and whole system approach to Local Area Energy Planning will provide a mechanism for consensus building and decision-making. This will result in local energy system designs that deliver net zero and respond to the climate challenge whilst supporting the price controls, business planning and future investment of network operators.

Energy Systems Catapult has developed and delivered pioneering local area energy plans. Ofgem has recognised their potential to guide decision-making towards net zero. This is recognised in Ofgem's latest Price Control Business Plan Guidance for network operators. Referring to the potential role of Local Area Energy Plans¹ to inform future network investment, "*we are interested in the potential offered by LAEP to provide improved data on and assessment of possible heat decarbonisation options, and provide a structured framework for engagement and investment planning decisions within a wider context of planning for net zero energy systems and network infrastructure,*".¹

There are various reasons why local authorities should play a leading role in the development of a Local Area Energy Plan for their area. This includes their ability to deliver long term commitments through responsibilities for infrastructure such as housing, waste, environment, transport, economic and social regeneration. Perhaps most importantly, are their statutory duties for planning and development ¹.

Placing whole energy systems thinking at the heart of local energy plans within a national framework for Scotland will be a valuable building block to support a net zero future for Scotland and the UK.

Local Area Energy Planning should be a component of integrated infrastructure planning.

In the short term (before 2025) creating the evidence alongside a coherent set of local area energy plans will provide the foundation from which investment in net zero energy systems for Scotland will be delivered with confidence and at scale before 2050.

In the medium term, reconciling local area energy plans to a national level will ensure coherence. This will result in all planning considerations, infrastructure (e.g. transport and EV charging) and future development utilising local area energy planning as statutory decision-making guidance.

In the longer term, Scotland aims to be net zero by 2045¹.

Biography

Tim German is a Senior Manager - Government & Regulator Relationships at Energy Systems Catapult (ESC). Previously, whilst Head of Stakeholder Management at ESC and the Energy Technologies Institute, Tim supported local area energy leadership with councils across the UK. Prior to working on the national agenda, Tim was energy lead in Cornwall.