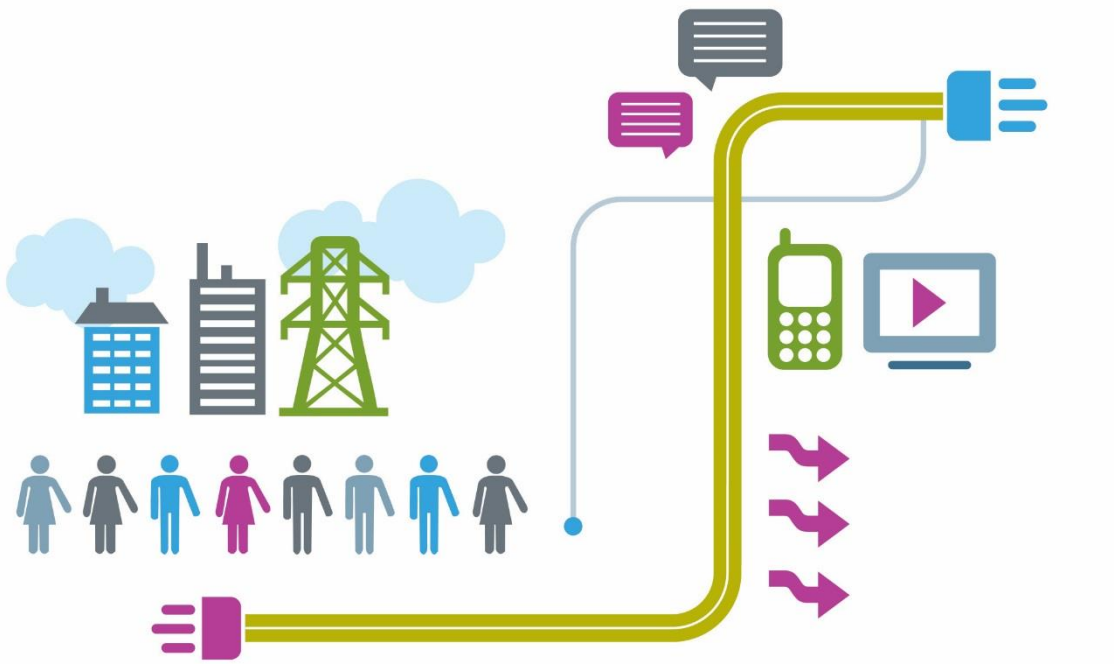
BEAMA

THE ELECTRICAL TRADE ASSOCIATION



Who Are We?

- BEAMA is the UK trade association for manufacturers and providers of energy infrastructure technologies and systems. We represent more than 200 companies, from start-ups and SMEs to large multinationals. Our members provide generation, transmission and distribution equipment, heating and ventilation products, EV infrastructure, electrical systems, and flexibility assets in networks and the built environment. We promote regulation, markets and products that support a safe, smart and secure low-carbon energy system.

- BEAMA has trusted relationships with key government departments, especially BEIS, DfT, MHCLG (responsible for building regulations) and DIT. Our strong relationships with the IET and BSI in the UK, CEN/CENELEC in Europe and the IEC make BEAMA the leading UK industry association for the development of electrical product standards.

What We Do and How We Do It

BEAMA prides itself on the provision of leadership, expertise and independent influence in the areas of product safety, performance, energy efficiency and sustainability for the electro technical industry. We help our members grow their businesses, delivering multiple benefits:

- Providing a head start on UK and EU policies, directives and regulations – we monitor changes to legislation, standards and guidance to give members timely information
- Influencing decision makers – we engage with key public and industry bodies to shape legislation, standards and guidance to ensure that members' products are treated accurately and fairly
- A bigger voice at lower cost – we share the costs of representing member interests to Government, BSI and other relevant bodies
- Influencing the supply chain – we work with other supply chain associations in distribution and contracting to promote our detailed product guidance

- Understanding Markets
- Maintaining Markets
- Developing Markets

What is the supply chain?

Electric vehicle charging equipment

- charge points
- communication connections
- electrical connections (wiring)

Considerations:

- Building load and energy management
- Network constraints (at building, local, regional, or national level)
- Flexibility: availability of data, responsiveness to data, network management, automation, consumer protection and the consumer experience
- Energy storage

Mayor of London's Electric Vehicle Infrastructure Taskforce

- Established in 2018 to understand London's likely future EV infrastructure needs (2025) and develop a plan to deliver them
- The first body of its kind
- The full delivery plan was published in June 2019.
- It can be found here:http://www.tfl.gov.uk/ev-charging-plan

- The Plan identified eight "enablers", the seventh of which is to:

Publish advice on EV infrastructure future proofing to encourage investors

Future proofing electric vehicle infrastructure

What is future proofing?

- The future proofing of EV infrastructure means that investment today will continue to deliver benefits to consumers and returns to investors long into the future.
- Future proofing aims to maximize the life of the asset and maximize the utility of the asset over its life. This includes flexible, robust and responsive design.
- Future proofing is about much more than just interoperability. It refers to:

Installation

consumer engagement

connections with other electrical infrastructure in buildings and streets

operational excellence

investment models that encourage innovation

Future proofing seeks to avoid obsolescence so consumers are not locked into restrictive customer journeys or forced to upgrade and replace working devices.

Future proofing electric vehicle infrastructure: the document

- What does future proofing mean?
  - Interoperability, interchangeability and integration
  - Access
  - Responsive and flexible technology and infrastructure (the path of least regret)
  - Cybersecurity and privacy
- Installation and operation issues
  - Building and wiring regulations
  - Safety and other installation requirements
- Finance and supply chain issues
  - “Whole-of-life” asset management
  - Asset ownership
  - Avoiding stranded assets
  - Encouraging innovation
- Next steps, conclusions and recommendations

Questions for consideration

What are the primary risks and uncertainties for investors and innovators in EV infrastructure, and how do we address them?

Technological advances will produce cheaper, lighter, better batteries. Does this pose challenges to existing infrastructure investment, design, manufacture and installation? How can these be addressed?

Smart or managed charging rely on a secure, easy-to-use, cost-effective system of smart vehicles, chargers and controls. To future-proof the system, where should the “smartness” be?

Current infrastructure is designed to meet the needs of the world as it is now. As we move towards autonomous vehicles, e-mobility, and new patterns of vehicle use and ownership, what needs to change?

For more information about BEAMA and its EV infrastructure group, please contact:

Jeremy Yapp

Head of Flexible Energy Systems

jeremy.yapp@beama.org.uk

07985 413514