

# HSE Shared Research Programme on **Energy Storage**

**Energy storage has a key role to play in tackling the trilemma of a secure, sustainable and affordable energy system for the future. With this in mind HSL, as part of HSE's Science Directorate are now presenting the Energy Storage (ES) shared research programme, to ensure that health and safety considerations do not act as barrier to the commercial deployment of energy storage technologies.**

To do this HSL will draw on past successful engagement in the energy sector, through its EET (Emerging Energy Technologies) Programme. Key conclusions from this programme were that “the process of identifying, managing and controlling hazards should not be regarded as a barrier hampering deployment of emerging energy technologies”, but rather, “a process specifically designed to prevent and eliminate problems that might otherwise retard the transition to a radically new UK energy system”.

This shared research programme is right now very pertinent, recognising that energy storage has been prioritised as one of the UK Governments Eight Great Technologies. Industry would benefit from a more holistic understanding of relevant health and safety considerations, and how they may act as a barrier to the deployment of new energy storage technologies. The purpose of this programme is to demonstrate a sound understanding of the hazard & risk profile; anticipate the risk management and regulatory needs; and identify/fill any knowledge gaps to benefit industry, policymakers and HSE.

## **The objectives of the ES shared research programme are to understand:**

- ❖ The deployment of energy storage technologies to 2050.
- ❖ The hazard and risk profile of key ES technologies and identify knowledge gaps
  - and evaluate standards and guidance to identify key knowledge gaps.
- ❖ Potential regulatory barriers to deployment of new energy storage technologies
  - and address identified knowledge gaps.
- ❖ Knowledge sharing linking with the public, policymakers, and industry.

## **The ES programme is expected to deliver:**

- ❖ A shared understanding of hazard and risk to industry, policymakers & HSE.
- ❖ A shared understanding of good practice.
- ❖ Risk assessment and risk management ‘health checks’ for partner pilot and demonstration projects.
- ❖ Approaches to minimise the impact of health and safety issues on the ‘critical path’ of these technologies.

A word cloud graphic with the word 'ENERGY' in large, bold, black letters at the center. Surrounding it are various related terms in different colors and orientations: 'research', 'affordable', 'secure', 'storage', 'commercial', 'deployment', 'process', 'sustainable', 'control', and 'technologies'. The words are arranged in a way that they appear to be floating or connected to the central 'ENERGY' word.

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## ES shared research programme set up

HSL proposes to initiate the ES shared research programme with a Programme Management (Phase 0) and Technology Timeline Deployment (Phase 1). Phase 1 has already begun and will be completed by HSL in January 2016. The shape and scope of subsequent phases will be influenced by the advisory board and programme partners.



## Access to ES shared research programme outputs

The ES shared research programme will be a partnership between the public and private sector. Information will be disseminated for 3 different audiences: the public, policymakers and technical users. Hosted on a web portal, access will be controlled in line with programme participation. The bottom diagram depicts the tiered approach to be employed.

### Phase 0 - Programme Management

It is proposed to set up an independent programme advisory board made up of industry, regulatory, HSE and funding bodies.

This board will advise on:

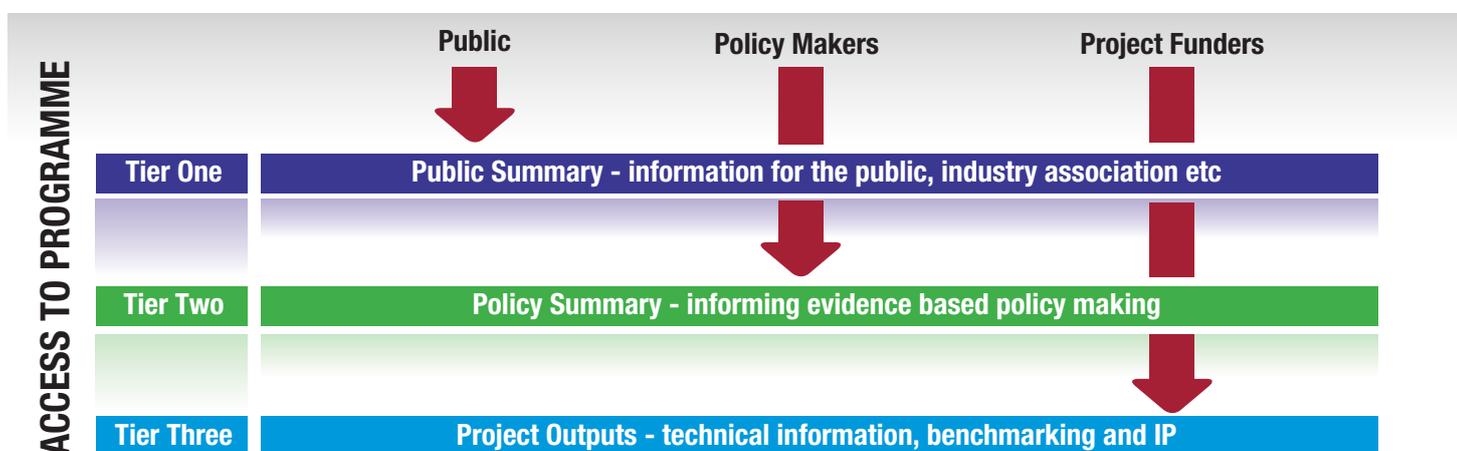
- ❖ General programme strategy to achieve objectives. A critical friend shaping and directing the research programme.
- ❖ Potential sources of funding and opportunities for commissioned research.
- ❖ Publications and outputs – advising on the communication plans; supporting the dissemination of research outputs to key audiences; offering pathways into user groups.

### Phase 1 - Technology Timeline Deployment

Focusing on current and emerging commercial/grid scale storage and delivered by HSE's Foresight Centre.

The outputs of this phase will include:

- ❖ A review of published scenarios to understand the potential balance of technologies.
- ❖ A technology deployment timeline
- ❖ A global outlook highlighting demonstration and pilot projects overseas.
- ❖ A summary of key technology benefits, incident history and hazard potential.
- ❖ Identification of existing or developing industry good practice guidance and EU/ISO standards.



For further details about the HSE Energy Storage Shared Research Programme or to register interest, contact:

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