

## 4. The UK funding landscape

### 1. Fuel Cells UK's position

1.1 Commercialisation of fuel cells in early markets is well underway, and mainstream applications should become accessible in less than five years. With the right support this will deliver rapidly accelerating growth and associated benefits for the UK fuel cell industry at the same time as providing material benefits to UK environmental and energy policy goals, helping to deliver the objectives set out in the Governments Manufacturing Strategy and the Prime Minister's plans to boost green sector employment. However, there is currently a disconnect between policy and fiscal support. Expansion and modification of this support is required in order for it to help fuel cells deliver their potential especially during the critical and costly product introduction phase.

1.2 Fuel Cells UK strongly believes that:

- a. A robust, clear and comprehensive support framework will be critical in helping fuel cells to achieve their potential to address policy goals around carbon reduction, energy security, fuel poverty and economic growth through the creation of a new high tech manufacturing base and associated support infrastructure within the UK, and green collar jobs within Government and industry.
- b. Timescales for support should be sufficient to ensure continuity and, thus, help manage risk during the product introduction phase.
- c. Over time, and as the need for support diminishes, fuel cell technology and the associated infrastructure will reap substantial benefits for UK environmental and economic development.

### 2. Optimising the funding landscape to accelerate fuel cell commercialisation and the realise policy goals

2.1 The successful development, deployment, and market penetration of fuel cells in the UK, and associated policy benefits, will be accelerated by an appropriate mix of policy measures. These will change over time:

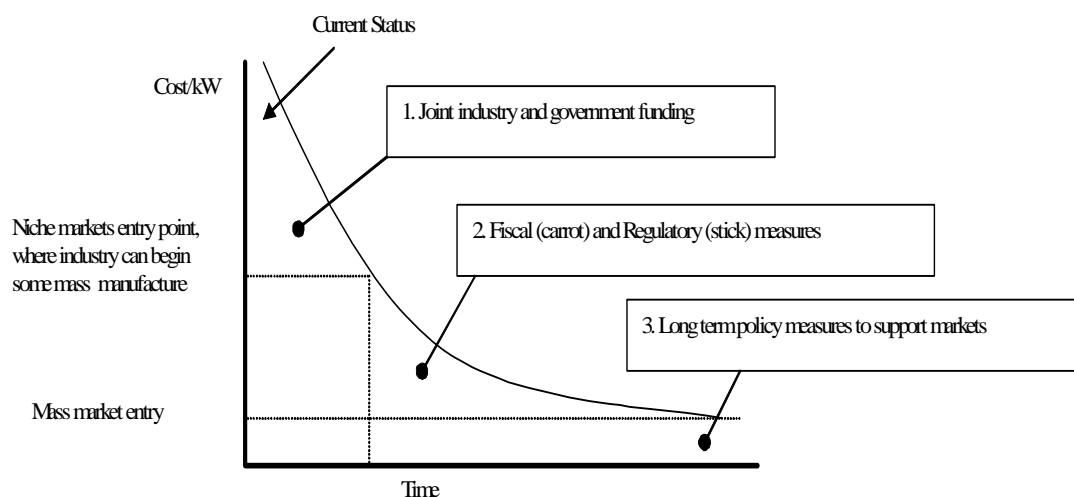


Figure 1: Range of policy measures and the role that they can play over time in reduction of fuel cell unit costs as the market develops

2.2 Currently the fuel cell industry is evolving from stage 1 to stage 2 (see figure 1). Thus, as well as an ongoing need for direct funding for research and demonstration, there is also a requirement for the development of a supportive policy regime which will assist with the deployment of products in an increasing number of applications. This regime needs to encompass both regulatory elements, to drive deployment and foster

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confidence within the market for investors, and fiscal elements, to incentivise deployment and continued improvements.

- 2.3 Possible support strategies include;
  - a. Focused support for development (see below)
  - b. Ongoing support for demonstration activity (see Position Paper 1)
  - c. Feed-in tariffs (see Position Paper 2)
  - d. Capital grants (see below)
  - e. Forward commitment (see Position Papers 3)

### **3. Focused support for development**

- 3.1 Whilst the Technology Strategy Board and Carbon Trust provide established mechanisms to support research, we believe that there is a need for focused support (e.g. in the form of grants) for product development of near-commercial fuel cell technology (at a materials and components as well as system level). This could play a key role in bridging the gap between research and demonstration, and facilitate longer-term cost reduction through manufacturing volume increases.
- 3.2 A key objective must be making such support available not only through cooperative / consortium programmes but also to single companies, through a long term commitment (at least 5 years). We recommend total funding of £75 - £100 million over 5 years. This will create certainty in the market, and work in harmony with European funding strategy, such as the Joint Technology Initiative (JTI), maximising the ability of such support to accelerate the development process.

### **4. Capital Grants**

- 4.1 To help the deployment of fuel cells in the energy market at a faster rate than would otherwise be the case, we recommend that the Government commits to the extension of capital grants. The level of grant available for a particular technology, whether it be fuel cells or other alternative technologies, should reflect the potential contribution of that technology to realise policy objectives such as the reduction of CO<sub>2</sub>, but also other environmental and social objectives, such as alleviation of fuel poverty, improved energy security and minimisation of pollutants. This will help to ensure that technologies which offer considerable energy and carbon saving potential, but are not fully commercially developed, and consequently are more expensive, receive the necessary support to bring them to market.
- 4.2 The support should be analogous to that already adopted under the Low Carbon Buildings Programme. For instance, a purchaser of a fuel cell system could receive a capital grant of £1,000 for each kW of electrical capacity installed. This approach has proved successful in the US State of Massachusetts. Here, a Fuel Cell Grant covers up to 25 percent of the total capital costs of the purchase and installation of fuel cells as part of systems to provide high quality power. Businesses, non-profit organisations, and state and local government agencies are eligible. The maximum award is \$2,000,000.

### **5. Summary**

- 5.1 Fuel cells are a clean, efficient, low carbon technology that offer significant non-exclusive benefits to society. There is an easily justifiable argument for financial support from concept through to commercialisation, based on potential benefits of clean energy technologies to society.
- 5.2 The various stages along the innovation chain are characterised by different opportunities and challenges, and the types of support required vary accordingly.
- 5.3 The Government must ensure that available funding mechanisms are well informed and targeted to deliver results at each stage and ensure that potential benefits offered by early stage investment do not go unrealised.