

# Economic Development Sub Committee

Item No.

<b>Report title:</b>	<b>Emerging Sectors – Cleantech</b>
<b>Date of meeting:</b>	<b>19 January 2017</b>
<b>Responsible Chief Officer:</b>	<b>Tom McCabe - Executive Director, Community and Environmental Services</b>

## **Strategic impact**

The term cleantech encompasses products, processes and services which address environmental issues on either a local, regional or global scale. The global cleantech sector can be divided into three broad areas: renewable energy; environmental technology (and associated activities); and low carbon technologies (and associated activities).

In a recent global survey from EY, it was calculated that throughout challenging market conditions there has been an annual gain of 18% of market capitalisation and a 12% increase in headcount within cleantech, with job creation focused mainly in the solar and wind industry. The rise in clean technology has been coined as the fourth industrial revolution in natural resources, with an estimated £1.3 trillion to be spent globally by 2030.

Within Norfolk/Suffolk, clean tech will be the region's most vital emerging growth sector and a vital pathway to economic development in the region. The cleantech sector (both in Norfolk/Suffolk and globally) builds upon the enabling sectors of engineering and manufacturing, energy and ICT.

These enabling sectors combined with the world class research in Environmental and associated sciences at the University of East Anglia and Norwich Research Park give the potential for large cleantech sector growth and the formation of a world leading cluster.

## **Executive summary**

The emerging sectors across Norfolk and Suffolk have many intersecting disciplines, skills requirements and technologies and can therefore support cross sector collaborative innovation as well as sector specific innovation. Cleantech, Biotech and Infotech are Norfolk and Suffolk's emerging sectors, which have launched off the backing of the underpinning (Creative Digital, Tourism and Finance) and enabling (Energy, Construction, High Value Manufacturing and ICT) sectors.

Cleantech is any product, process or service which can provide superior performance for a lower cost, by harnessing renewable materials and energy sources, while greatly reducing negative ecological impacts, as well as improving efficiency and responsible use (and reuse) of natural resources. The cleantech sector can generally be broken down into five sectors which globally represent clean technology (Energy, Waste, Transport, Agriculture and Construction).

During 2015 there was a step change in the level of clean tech investment, helped along by the Paris Agreement and other specific policy measures and investment commitments. 2016 was dominated by encouraging developments for the green economy. This is characterised by several powerful countries taking positive steps in the direction of a low carbon economy (see Appendix 1).

## Recommendations:

1. **Members are asked to note the emerging 'Cleantech' sector and the opportunities that it provides.**
2. **Members are asked to endorse the work of Hethel Innovation in the delivery of the 'Innovation New Anglia' programme and the establishment of the 'Cleantech East' network to support and grow the sector.**

## 1. Proposal

- 1.1. There are many reasons why the emerging sector of cleantech should be supported in Norfolk/Suffolk, including the economic impact it is already having. In Norfolk/Suffolk 1 in 12 jobs is directly dependant on natural capital, which cleantech aims to preserve and promote.

## 2. Evidence

- 2.1. Many Hethel Engineering Centre and Scottow Enterprise Park tenants (operated by Hethel Innovation) are operating in the cleantech sector. With these businesses, others in the New Anglia region and the knowledge base of the UEA, there is a substantial base to grow the cleantech sector. With the Energy Coast increasing the cleantech infrastructure base, the individual sub sectors are there, but there needs to be a connecting body linking local subsectors to ensure a coherent and successful sector is grown.
- 2.2. New Anglia LEP can play a key role in growing the cleantech sector, and the Hethel Innovation team is keen to be a catalyst for this growth through the Cleantech East network. Working in partnership with Anglia Water, Barclays, New Anglia LEP, Extremis Technologies, UEA and many others, Cleantech East will help develop the region's sector.
- 2.3. Comprehensive analysis of the sector is provided in Appendix 1.

## 3. Issues, risks and innovation

- 3.1. Although the global and UK clean tech market has been growing over recent years and is set to continue growing for years to come, it does face some challenges.

### 3.2. Risk

**Uncertain Timescales** — The potential opportunity is large but timing is uncertain as to when these opportunities will materialise, additional risk to any investment.

**Inaccuracy of Sales forecasts** — Sales forecasts can lead to misrepresentation if they are drawn from historic data by dealers that utilised incentives to meet sale demands.

**Risk Management** — A greater level of transparency and accountability is needed to identify risks early on and to manage them.

### 3.3. Uncertainty

**Technologies unproven with alternatives closer to market** — For certain areas, such as wave and tidal, much of the technology is still unproven and research and development has been ongoing for many years without achieving commercial or technology breakthrough.

**Disconnection between manufactures and customers** — Incentives can cause manufactures to misinterpret demand, resulting in creation of an artificial demand that is not cost effective or the most desirable for the consumer.

**Climate Change and Environmental Legislations** — Climate change has become a key and growing influence on legislation, stimulating new and emerging sectors focusing on lowering carbon emissions and a growing financial sector based on investment in low carbon markets.

#### 3.4. **Connection**

**Technologies lie in other sectors** — There are certain other sub sectors where the technology is cross cutting and where it is difficult to find a specific focus for intervention, this includes ICT and Biotech in clean technology.

**Limited supply chain collaborations** — There is a vibrant and growing sector in the region but limited collaboration taking place between companies in the region.

**Small sub sector size** — Sub sectors with small market values and relatively low forecast growths are lower priorities for intervention. Companies in these sectors need additional support.

### 4. **Background**

4.1. Cleantech is any product, process or service which can provide superior performance for a lower cost, by:

- harnessing renewable materials and energy sources;
- greatly reducing negative ecological impacts;
- improving efficiency and responsible use (and reuse) of natural resources.

4.2. The cleantech sector can generally be broken down into 5 sectors which globally represent clean technology: Energy, Industrial, Agricultural, Transport and Waste.

4.3. Within local economies the sectors and strengths will differ, depending on the existing economy sectors and strength on which the cleantech is based.

4.4. There is a thriving global cleantech sector, which is growing year on year. Cleantech is representative of the fourth industrial revolution.

### **Officer Contact**

If you have any questions about matters contained in this paper or want to see copies of any assessments, eg equality impact assessment, please get in touch with:

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