THE CLEANTECH SECTOR

WHAT IS IT?

£1.3 TRILLION BY 2030 spent on cleantech globally

£4 BILLION BY venture capital investment Q1 2016

4th INDUSTRIAL REVOLUTION in natural resources

6th IN THE WORLD for cleantech innovation

£9 BILLION invested

260,000 ENTERPRISES in cleantech

Industrial Strategy
Securing jobs and a stronger economy

BARCLAYS

CARBON TRUST

Innovate UK

CIE Cleantech Incubation Europe

HETHEL ENGINEERING CENTRE

LOW CARBON TRANSPORT
13% of UK's biofuel market

Cambridge Cleantech

ADVANCED MATERIALS
55 Operating Companies

OrbisEnergy
offshore renewable business

CLEAN ENERGY
7,700 people employed

BUILT ENVIRONMENT
64,000 people employed

ENVIRONMENTAL TECH

soil moisture sense

extremis technology

Aponic

WHY IS CLEANTECH IMPORTANT?

ECONOMIC IMPACT

£3.2 TRILLION — Global low-carbon and environmental goods + services (LCEGS) sector value

£122 BILLION — UK share of the LCGES Market

4,000 — New LCEGS UK jobs to be created by 2017

1 IN 12 — Jobs in New Anglia are directly dependant on natural capital

EXISTING SUPPORT

BARCLAYS

Barclays has been offering cleantech financing for over 15 years. Recently they have set up specific Cleantech, Low carbon energy and environment and Renewable energy teams. They have a particular focus on the Circular Economy.

The BIS Industrial Strategy lays out eight great technologies, 5 of which are clean technologies. With Catapult Centres on renewable energy, connected digital economies, future cities and transport systems it is clear the UK Government is supporting the individual technologies.

Industrial Strategy

Innovate UK

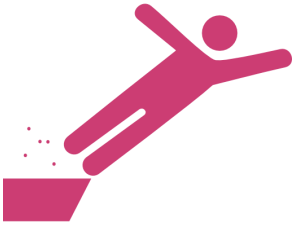
Innovate UK is focusing on Infrastructure Systems including energy, transport and the digital economy. Within this their priorities are energy systems and supply, transport systems, and smart infrastructure.

WHAT ARE THE CHALLENGES?

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.

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 sectors based on investment in low carbon markets.

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 the companies in the region.

SMALL SUB SECTOR SIZE — Sub sectors with small market values, relatively low forecast growths are lower priorities for intervention. Companies in these sectors need additional support.

WHAT IS THE BIGGER PICTURE?

CLEAN TECHNOLOGY IS A VITAL COMPONENT OF A CIRCULAR ECONOMY ALLOWING GREATER EFFICIENCY & REUSE OF RESOURCES

THE THEORY

Instead of 'make, use & dispose', the circular economy reuses resources for as long as possible to extract the maximum value.

A circular economy involves development of **INNOVATIVE BUSINESS MODELS** which can grow the economy through **SOCIAL CAPITAL** and **CONNECTING LOCAL POTENTIAL.**

THE APPLICATION

Cleantech is any product, process or service which is able to:

- 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 + RESPONSIBLE USE** (and reuse) of natural resources