

**6 October, 2015**

## **Low carbon energy – Overview**

---

### **Joint report of Assistant Chief Executive and Corporate Director of Regeneration and Economic Development**

---

#### **Purpose of the Report**

1. The purpose of this report is to provide members of the committee with background information prior to a presentation by Professor Jon Gluyas, Dean of Knowledge Exchange, Dong/Ikon Chair of Geoenergy Carbon Capture and Storage, Department of Earth Sciences, Durham University focusing on low carbon energy providing detail of: energy development in the Country and in the North East region; current position; issues and challenges and current and future opportunities.

#### **Introduction**

2. Professor Jon Gluyas attended the special meeting of the Environment and Sustainable Communities Overview and Scrutiny Committee in November 2014 and gave a presentation focusing on Underground Coal Gasification (UCG). At that meeting it was suggested by members that Professor Jon Gluyas be invited to a future meeting of the committee to do a presentation on low carbon energy and it was agreed by members as part of the work programme for 2015/16 that a special meeting be arranged to look at low carbon energy, changes in Government policy regarding renewable energy and work undertaken by Durham County Council (DCC) in relation to renewable energy and reducing DCC's Carbon emissions. Arrangements have therefore been made for Professor Jon Gluyas to attend the Environment and Sustainable Communities Overview and Scrutiny Committee on the 6 October to deliver a presentation focusing on:
  - Background in relation to the development of energy in the Country and the North East region.
  - Current position – Why we are where we are?
  - Issues and challenges.
  - Current and future opportunities.
3. Members are also aware that as part of the 2014/15 and 2015/16 committee work programmes regular reports have been received providing updates on the development of the European Structural and Investment Fund (ESIF) Programme 2014-2020. Members will recall that included within the ESIF programmes top priorities is the low carbon economy strand which is ring fenced as 15% of County Durham's total ERDF allocation (around £18m). The last update received by the committee at the April meeting highlighted that DCC and partners had developed a number of projects to put forward for funding under the low carbon economy strand of the programme. The next

ESIF programme update is scheduled to be considered at the meeting on the 12 October, 2015.

## **Background**

4. The North East region of England emits around 20 million tonnes of carbon dioxide per annum. Heating accounts for just over one third while power generation is a third and transport just under one third. The per capita emissions are higher than the UK average and reflect the abundance of industry in the region. Government commitments to cut the emissions by 80% for 2050 demand very affirmative actions to reduce the region's carbon footprint. In reality this will need to be achieved while delivering both growth and improving prosperity. Heating, transport and power generation all need to be addressed and energy demand must be reduced. Can low carbon and renewable energy technologies deliver to this challenge?

## **Current position**

5. County Durham has developed most of its high grade wind-prone average. However the remaining low carbon energy technologies have not been fully evaluated and certainly not applied.

## **Issues/Challenges**

6. The main issue to overcome is that absence of accounting for the cost (environmental and long term) of burning fossil fuels, that is to say that the associated emissions are simply ignored. This means that the high energy density in fossil fuels gives such fuels a big advantage. Large scale uptake of low carbon and renewable energy requires initial subsidy and/or significant infrastructure investment.

## **Opportunities**

7. The North East region has a number of advantages, some natural and others derivative which provide it with an opportunity.
8. The geology of the region offers us opportunities to develop geothermal energy, low carbon energy from coal and utilisation of industrial waste heat. It is also possible that the North East have materials that could find use in renewable and low carbon energy applications.

## **Recommendation**

9. That the members of the Environment and Sustainable Communities Overview and Scrutiny Committee note and comment upon the information provided during the presentation.

## **Background papers**

None

---

**Contact: Tom Gorman, Corporate Scrutiny and Performance Manager Tel: 03000 268027**

**Contact: Maggie Bosanquet, Sustainability and Climate Change Team Leader, Tel: 03000 265549**

**Author: Diane Close, Overview and Scrutiny Officer, Tel: 03000 268141**

**Author: Professor Jon Gluyas, Dean of knowledge Exchange, Durham University**

---

---

## **Appendix 1: Implications**

---

**Finance** –None

**Staffing** – None

**Risk** - None

**Equality and Diversity** – None

**Accommodation** - None

**Crime and Disorder** - None

**Human Rights** - None

**Consultation** – None

**Procurement** - None

**Disability Discrimination Act** – None

**Legal Implications** – None