1.0 INTRODUCTION

1.1 Introduction

1.1.1 This Environmental Statement (ES) accompanies a detailed planning application being jointly submitted to Nottinghamshire County Council (NCC) by Peel Environmental Management (UK) Ltd. (PEMUKL) and Bilsthorpe Waste Ltd. (BWL) for the development of Bilsthorpe Energy Centre, a combined Materials Recovery Facility and Plasma Gasification Facility, on land at Bilsthorpe Business Park, Eakring Road, Bilsthorpe, Nottinghamshire.

1.1.2 The ES describes the proposal and provides an assessment of the likely environmental effects that may arise from the construction and operation of the development and its associated infrastructure.

1.1.3 This introductory Chapter provides the general background to the development, an outline description of the proposal, details of the applicant and defines the structure of the ES.

1.2 The Proposal

1.2.1 The proposed Bilsthorpe Energy Centre (BEC) development would comprise the construction of an integrated Materials Recovery Facility (MRF) and a Gasification Facility (employing plasma gasification technology) and associated infrastructure and landscaping. It would be designed to manage circa 117,310 tonnes per annum (tpa) of waste which would either arrive pre-treated (i.e. as a Solid Recovered Fuel (SRF) ready for gasification), or requiring pre-treatment within the MRF to recover recyclables and produce a SRF for gasification. The SRF would ultimately be mixed with limestone and metallurgical coke to form a *'feedstock'* for the Gasification Facility.

1.2.2 The proposed BEC development would have an installed electricity generating capacity of circa 13.6 Megawatts (MW) and it would generate electricity through the gasification of the *'feedstock'* and the combustion of the resulting *'syngas'* in a series of internal combustion engines (ICEs). In addition, the facility would also have the potential to provide circa 5.5MW of

heat in the form of hot water recovered from the cooling systems associated with the ICEs.

1.2.3 Waste material that would be processed at the proposed BEC development would comprise a combination of residual non-hazardous commercial and industrial (C&I) waste and municipal solid waste (MSW) sourced from within Nottinghamshire, the City of Nottingham and surrounding authority areas.

1.2.4 The operation of the proposed BEC development would comply fully with relevant UK Government and European Union (EU) legislation and policies. The principal processes to be carried out at the proposed BEC development would comprise the receipt, storage and treatment of non-hazardous waste, including the recovery of recyclables (within the MRF). The recyclable materials would be exported off-site to an appropriate re-processing facility with the resultant SRF gasified to produce a synthesis gas (referred to as *'syngas'*) which would be combusted on-site in a series of ICE's to generate electricity and potentially heat.

1.2.5 In addition the above, alkaline fuel cells could be deployed at the proposed BEC development at some point in the future. If the fuel cells were to be fully integrated at the application site (replacing the proposed ICEs), it would theoretically be possible to increase the electrical power output of the proposed BEC development by circa 45%. A more detailed description of the future alkaline fuel cell proposals and their use / benefits is provided within Chapter 4.0 of this ES.

1.2.6 On the basis that the planning application is approved, the proposed BEC development is programmed to open in late 2016 / early 2017. The facility would have a design life of around 25 years although in reality many elements would last beyond this period. For the avoidance of doubt planning permission is being sought for a permanent development and, therefore, as elements of the proposal require repair / refurbishment / replacement this would be carried out when necessary.

1.2.7 The proposed BEC development is being promoted as a *'merchant'* development. This means that PEMUKL and BWL would, in accordance with its established business model, look to secure planning permission for the

scheme and then, during and leading on from the planning process, would work with waste management industry partners to secure the optimum delivery mechanism. This is likely to involve PEMUKL's prospective partners securing a series of commercial agreements for both C&I waste and MSW to supply the proposed BEC development.

1.3 The Site and Its Context

1.3.1 The proposed BEC development would be located within Bilsthorpe Business Park, which is situated on the site of the former Bilsthorpe Colliery, circa 420 metres (m) to the north-east of the village of Bilsthorpe. In terms of its wider context, the site is located circa 24 kilometres (km) to the north of the City of Nottingham, 19km west of Newark and 11km east of the centre of Mansfield. The location of the site is shown on Figure 1.1 and the extent of the application site within the Business Park is shown in Figure 1.2.

1.3.2 Bilsthorpe Business Park covers an area of circa 24 hectares (ha) and is being progressively developed for general industrial and storage and distribution uses. To date, several business units have been completed and NCC's Northern Area Highways Depot has been constructed on land to the immediate west of the application site. In addition, the Business Park also contains a mine gas utilisation plant which generates energy from the gas that is extracted from the former colliery.

1.3.3 Bilsthorpe Business Park lies within a bowl-shaped landform which is bounded to the north, east, and south by restored colliery spoil tips. A dis-used railway line runs along the southern boundary and is understood to have recently been the subject of a successful planning application to turn it into a cycle path. An earth mound planted with trees (provided as part of the restoration of the colliery) forms a mature woodland belt which runs along the western boundary. There is a surface water lagoon circa 80m to the north east which is used by Bilsthorpe Fisheries Angling Club and 5 wind turbines have recently been constructed on the former colliery tip to the east.

1.3.4 In terms of the wider context:

- To the south east is the site of a restored landfill, beyond which the land is predominantly within agricultural use;

- To the south is an undeveloped area of the former Bilsthorpe Colliery, beyond which is the boundary of the village of Bilsthorpe. Part of the land to the south (associated with the former colliery) has recently received planning consent for the development of a large Solar Farm;
- To the west is Eakring Road, beyond which is a series of agricultural fields that are punctuated by a row of residential properties. To the south west is the main body of the village of Bilsthorpe; and
- To the north is Deerdale Lane, beyond which the land is predominantly within agricultural use.

1.3.5 Bilsthorpe Business Park is accessed by a circa 250m long private road which connects to Eakring Road via a priority junction. Eakring Road connects to Deerdale Lane circa 500m to the north which, in turn, connects to the A614 Old Rufford Road circa 950m to the west. This route is signposted as a Heavy Goods Vehicle (HGV) advisory route.

1.3.6 The proposed BEC development would be situated within a circa 4.35ha parcel of land that is located within the centre of Bilsthorpe Business Park. The application site has a number of key characteristics it:

- Is broadly flat and stands at around 74.5m above ordnance datum (AOD);
- Is completely clear of vegetation following works carried out during 2013;
- Comprises entirely made ground which is formed by a combination of demolition rubble, reworked topsoil and silty coal;
- Contains no existing water bodies;
- Contains no existing buildings or other structures;
- Is underlain by two former mine shafts which have been backfilled and capped to modern standards; and
- Is currently accessed via the internal estate roads that have been developed in connection with the Business Park.

1.3.6.1 In addition to the above, it should also be noted that whilst the application site is located on Bilsthorpe Business Park (which is an existing committed employment site), it is also within an area that is designed as a Site of Importance for Nature Conservation (SINC). This area has been designated

on the basis of its importance for breeding waders and dingy skipper butterflies. Further consideration of the impact of the development upon the SINC is provided in Chapter 8.0 of this ES which considers the potential Ecological / Nature Conservation impacts of the proposed BEC development.

1.3.7 The nearest residential properties to the application site are two isolated properties located circa 400m to the west of the site (on Eakring Road). The main body of residential properties within the settlement of Bilsthorpe are located circa 420m (at the nearest point) from the site boundary.

1.3.8 It must be noted that this sub-section is only intended to provide an overview of the application site and its context and any specific receptors and other important considerations are taken into account where relevant within the individual Chapters of this ES.

1.4 The Applicants

Peel Environmental Management UK Ltd

1.4.1 Peel Environmental Management UK Ltd (PEMUKL) is a sister company of Peel Environmental Limited (PEL) and was formed in connection with the joint venture that the company has with Harworth Estates (who are the owners of Bilsthorpe Colliery).

1.4.2 PEL is at the forefront of developing new infrastructure for the waste, mineral and environmental technology sectors across the UK and is facilitating recycling, converting waste into heat and electricity and providing facilities where cutting-edge environmental technologies can flourish through the development of Resource Recovery Parks and energy from waste solutions.

1.4.3 Working in partnership with waste managers and technology providers, PEL develops and invests in projects demonstrating a proven track record in:

- Market analysis;
- Securing property rights;
- Planning and consenting; and
- Development and construction.

1.4.4 Having secured planning permission for the largest Resource Recovery Park in the UK (Ince Park in Cheshire), PEL continues to develop opportunities to provide solutions for business and the environment.

Bilsthorpe Waste Ltd

1.4.5 Bilsthorpe Waste Limited (BWL) is a Special Purpose Vehicle (SPV) for the delivery of the proposed BEC development and was formed as a result of the joint venture between PEL and Harworth Estates.

1.5 This Document

1.5.1 This document is the ES, which has been prepared to accompany the planning application. It describes the potential environmental effects of the proposed BEC development, both during its construction and operation. It has been prepared in accordance with European Community (EC) Directives on the assessment of the effects of certain projects upon the environment (85/337/EEC updated by 97/11/EEC). This legislation is now manifest in England through the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 with which this report is fully compliant.

1.5.2 Following on from this introduction the remainder of the ES is structured as follows:

- Chapter 2.0 of the ES outlines the approach to the assessment describing the scope and structure of the ES;
- Chapter 3.0 summarises the need for the proposed BEC development and the alternatives considered;
- Chapter 4.0 provides a detailed scheme description and provides an outline of the construction methods;
- Chapter 5.0 provides an outline description of the planning policy context relevant to the determination of the planning application.
- Chapters 6.0 to 15.0 assess the potential environmental impacts of the proposal during its construction and operation, including proposed mitigation measures;
- Chapter 16.0 provides an assessment of the impacts of potential options to connect the proposed BEC development to the local

electricity grid network, which is a discrete element of the scheme and does not form part of the planning application which this ES supports; and

- Chapter 17.0 summarises the assessment findings.