



DEVELOPMENT MANAGEMENT COMMITTEE

Report by Development Management Manager

1 DESCRIPTION AND LOCATION

Construction of a biomass combined heat and power plant at Tesco Distribution Centre, Carnegie Road, Livingston

2 DETAILS

Reference no.	0467/FUL/10	Owner of site	Santon Group Developments
Applicant	Tesco Stores	Ward & local members	<i>Bathgate</i> W Boyle J McGinty J Walker
Case officer	Ross Burton	Contact details	01506 775217 ross.burton@westlothian.gov.uk

Reason for referral to Development Management Committee: Previous application reported to committee

3 RECOMMENDATION

Grant planning permission subject to conditions.

4 DESCRIPTION OF THE PROPOSAL AND PLANNING HISTORY

- 4.1 Planning permission is sought for the construction of a combined heat and power plant on land adjacent to Tesco's distribution centre between Carnegie Road and the A89, to the north of the M8 motorway, on the site of the former NEC plant. Combined heat and power is the simultaneous generation of usable heat and power (in this case electricity) in a single process, by burning woodchip to create high pressure steam. The plant would deliver approximately 6.5 megawatts of power, enough to satisfy the demands of the adjacent distribution centre at its peak, and to provide additional electricity which would be sold to the national grid.
- 4.2 The site, which is under a hectare in size, is bounded by the Tesco distribution centre to the west, by vacant land to the east and south, and by the A89 to the north. The M8 motorway is approximately 150 metres away to the south. On the opposite side of the A89, just over 50m from the proposed plant, there is a detached house, Mossbank Cottage; there is also a small group of four cottages at Herron Square 200 metres to the east, and individual houses to the east along the A89. On the other side of the motorway, in Deans, the closest houses are approximately 500 metres away.

- 4.3 As set out on the attached drawings, the proposed plant would comprise a building for storing wood-chip fuel, a turbine house, cooling plant, a water tower, a stack and smaller elements for housing switchgear and filtration equipment. The main buildings would have a maximum height of 26 metres; the stack would be 48 metres high. It would have the appearance a single industrial building with a large stack at its southern end. The buildings would be clad in insulated panels coated in a white micro-fibre finish similar in appearance to the adjacent distribution centre. Following discussion, it has been agreed that some elements of the plant linking the boiler to the chimney stack, which for operational reasons cannot be covered with cladding, could be coloured to make them a feature of the design, creating visual interest and identifying them as individual elements in the process.
- 4.4 The plant would for the most part burn wood-chip sourced from local forestry management operations to provide sufficient heat and power for the distribution centre, with the potential to sell any excess power to the national grid. The average amount of HGV vehicle movements associated with the plant are 16 a day; 12 delivering woodchip and four removing ash. To put this in context, the adjacent distribution depot has an average of 330 deliveries and 330 departures of HGVs a day. The plant would have a staff of 10. In addition to wood-chip, a small proportion of the material to be burned would be clean wood waste. A condition is attached to ensure that no other material is burned.
- 4.5 The process would release an odourless plume which could be visible at certain times of the day and which would contain water vapour, nitrogen, carbon dioxide and oxygen.
- 4.6 The plume from the 48 metre high stack gives rise to two issues - the air quality implications of the flue gas and the impact on visual amenity of the plume when viewed from sensitive receptors.
- 4.7 According to the applicant's supporting statement the plume would be visible for 50% of the time that the plant is in operation. The applicant states that it would have an average length of 35 metres, and for 20% of the time the plume would be visible it would be over 48 metres long (the height of the stack). In other words, the plume would, according to the supporting statement, be visible for approximately 180 days a year, and would be over 48 metres long for 37 of those days. The maximum plume length predicted, based on the reports from the weather centre at Edinburgh Airport since 2005, is 261 metres.
- 4.8 Modelling in the air quality assessment shows the dispersal of the plume and that based upon metrological trends, the plume could extend to above the houses in Heron Square, some 200m east of the stack. The closest house at Mossbank would be some 25m away from the predicted plume length in that direction. According to the applicant the height of the stack and speed of the exhaust gases ensure that the visible plume will disperse before any of it reaches the ground.
- 4.9 In terms of air quality, the modelling carried out by the applicant, and accepted by SEPA, demonstrates that if the plume were under extreme and unusual weather conditions to ground close to the plant the range of emissions contained in the plume would be well within acceptable levels under the terms of the Pollution Prevention and Control Regulations. These regulations are controlled by SEPA, who license the plant and who are satisfied that the development is acceptable under this regime. Specialist advisors to the council concur with this view.

- 4.10 To address the visual impacts of the development, a landscape and visual impact assessment (LVA) were carried out. Mossbank Cottage and Heron Square were initially omitted from the study but included latterly. As houses, both receptors are rated as 'high' in terms of sensitivity. The LVA concludes that there will be a significant/moderate change at these receptors. To the applicant there is no reason to assume that the plume would ground at these premises and in any event the content is within the limits as prescribed by SEPA. Nonetheless there remains a risk, however small, that amenity is effected as a consequence of the development. This matter is discussed in section 8 of this report.
- 4.11 A previous application for a biomass heat and power plant was granted in February 2009 (application 0006/FUL/08). The output of the approved plant was smaller than the current proposal, at 5 MW, and had a stack size of 34 metres. The building approved under 0006/FUL/08 had a maximum height of 25.3 metres; the new building proposed would be lower, at a maximum height of 22 metres. The emissions detailed above are lower than those approved under the 0006/FUL/08 application, due in part to the increased height of the chimney stack and in part to the improved specification of the boiler.

5 PLANNING POLICY ASSESSMENT

Plan	Policy	Assessment	Conform?
Edinburgh and Lothians Structure Plan	ENV 6 Renewable energy	The policy seeks to encourage the use of renewable energy sources.	Yes
West Lothian Local Plan	HOU 9 Residential amenity	On the basis of the submitted information, the proposed plant will not give rise to residential amenity problems.	Yes
West Lothian Local Plan	EM 5 Expansion, conversion or redevelopment of premises within employment areas shown on the proposals map	The site is part of the former NEC plant, is within the specified area shown in the proposals map and as such its redevelopment is supported under this policy	Yes
West Lothian Local Plan	NWR 20 Renewable energy	The proposal is for a plant producing combined heat and power from a renewable source	Yes

Also of relevance is Scottish Planning Policy, PAN 45, Renewable Energy Technologies, National Planning Framework 2, and the Biomass Action Plan for Scotland, March 2007, which actively supports the generation of electricity from biomass fuels, and the development of combined heat and power plants in particular. The proposal is supported by these documents.

6 REPRESENTATIONS

As no neighbours required to be notified the application was advertised on 9 July 2010; no representations have been received.

7 CONSULTATIONS

This is a summary of the consultations; the full documents are contained in the application file.

Consultee	Objection?	Comments	Planning Response
SEPA	No	The plant will be licensed by SEPA under PPC regulations and is acceptable within the terms of these regulations.	Noted; the PPC regulations control air quality.
Environmental Health	No	Conditions should be the same as for application 0006/FUL/08	Conditions attached
British Airports Authority	No	Obstacle lights to be placed on the top of the stack; a bird hazard management plan is to be submitted	Conditions attached
Flood prevention	No	Proposals must accord with current guidelines and best practice	Conditions attached
Transport Scotland	No	Increase in traffic is minimal	Agreed
Transportation	No	No objections	Noted
Scottish Water	No	No comments	

8 ASSESSMENT

- 8.1 Section 25 of the Town and Country Planning (Scotland) Act 1997 requires planning applications to be determined in accordance with the development plan, unless material considerations indicate otherwise.

Development Plan: Edinburgh and Lothians Structure Plan

- 8.2 Policy ENV 6 of the Edinburgh and Lothians Structure Plan seeks to support renewable energy proposals. It reads: "The development of renewable energy resources will be supported where this can be achieved in an environmentally acceptable manner". The proposal accords with this.

West Lothian Local Plan

- 8.3 Policy NWR 20 of the West Lothian Local Plan reads:
"The Council supports the development of renewable energy schemes provided that the schemes are environmentally acceptable and the criteria set out in this local plan can be met." The supporting information, and the independent assessment of elements of it, have demonstrated that the scheme is environmentally acceptable, and that the development will not give rise to adverse impacts on local residents or the community at large.

Government Policy and Guidance

- 8.4 SPP states that *"Planning authorities should support the development of a diverse range of renewable energy technologies, and guide development to appropriate locations"*.
- 8.5 The Biomass Action Plan for Scotland supports biomass as a major contributor towards meeting the country's target of 40% renewable energy generation by 2020. It identifies combined heat and power plants, as proposed here, as a key component of UK and EU biomass policy. The action plan states: "the Executive wants to see the planning system

make a positive provision for renewable energy developments...biomass is highlighted to ensure a supportive framework is in place to help the sector grow to its full potential". An extract from the action plan is appended to this report.

Other Material Considerations

- 8.6 The siting and design of the plant and its operational effects are all material considerations in the determination of the application. The potential noise impacts have been set out in the submitted noise report and the council's environmental health officers are in agreement with its findings that, subject to conditions, it will not give rise to amenity problems. The plant will give rise to noise on a 24 hour basis but which, given the design and specification of the building, will have a negligible impact on local receptors when the nearby M8 and adjacent distribution plant are taken into account. A condition setting the maximum noise limits of the plant when measured at various receptors is proposed. If the operation of the plant exceeds the set levels at any of these receptors, the plant will need to cease operations until such time as it can be made to operate within those levels.
- 8.7 The visual impact of the main part of the plant will be lessened by its proximity to the distribution centre, a very large building with a significant visual impact. The new building will be clad in a similar material, and will be bordered in part by bunding and tree planting along its northern boundary. Individual items of plant will be coloured to add visual interest to the building. It should be borne in mind that the application site was formerly occupied by the NEC plant and that it is designated in the West Lothian Local Plan as industrial land. The elevations of the proposed plant are attached to this report. The chimney stack, at 48 metres will be higher than the distribution centre and will be a noticeable feature in the landscape.
- 8.8 Air quality issues associated with exhaust gas emissions from the plant are controlled by the Scottish Environment Protection Agency under separate legislation. Before the plant can begin operation a permit under Part B of the Pollution Prevention and Control (PPC) regulations must be obtained. Exhaust gases exit from the stack at 15 metres a second; this speed is maintained by the fans which operate in the boiler, and are a part of the combustion process. The boiler cannot operate if the fans are not running, so the emission speed will be consistent. The emissions from the plume are monitored, and if they are found to breach the levels stipulated in the PPC licence the plant is ordered to stop operating.
- 8.9 Modelling carried out by the applicant sets out the average and maximum range of the plume and its direction of dispersal from the stack. Based upon this information the maximum length of the plume coincides with the distance from the stack to the houses in Herron Square. The visual impact assessment of the applicant advises that there will be a significant/moderate degree of change at these receptors and similarly at the house at Mossie Cottage, some 25m north of the plant. It is the applicant's position that the plume will not ground at these properties given the height of the stack and the velocity of the flue gasses leaving the stack. Nonetheless, as a safeguard, a condition ought to be attached which will require the plant to cease operation if, in the council's opinion, due to prevailing metrological conditions any neighbouring property suffers from a loss of amenity because of the plume grounding at or near their property.

9 CONCLUSION AND RECOMMENDATION

- 9.1 The combined heat and power plant is proposed to supply the new distribution centre with heat and energy, annually saving some 26,500 tonnes of carbon dioxide emissions. The development of the plant accords with the Government's policy to encourage a major increase in the smaller-scale production of heat and electricity from renewable sources, such as that proposed here. The Government's biomass action plan, published in 2007, recognises that combined heat and power generation can make more efficient use of biomass resources and contribute towards the Scottish share of the UK's carbon emissions policy, and states that CHP is a key component of the country's biomass policy. The proposal therefore represents a step towards the Government's policy of the innovative use of alternative, renewable energy sources and will make a positive contribution towards the climate change agenda.
- 9.2 It will be the first such development in West Lothian, and one of the first in the country. As such, while it is to be supported in terms of overall energy policies, it is important that the precautionary principle applies to the consideration and subsequent operation of the facility. The noise which the plant will generate and the plume which is emitted are both factors which could have the potential to affect local amenity adversely. While the information contained in the supporting statement gives comfort that the plant will operate without giving rise to unacceptable local impacts, it is considered proper to attach conditions which will require the plant to cease operation temporarily if either noise or the effects of the plume give rise to problems locally.
- 9.3 The proposed building will add a new feature into the local landscape; that, however, must be seen in its context – in an industrial area, adjacent to a very large distribution centre. The plant will be finished in the same materials as the distribution centre, with the exception of the brightly coloured elements, and there will be new landscaping established to the north, east and south, including significant earth bunding and tree planting between the site and the A89 .
- 9.4 The proposal is one which will contribute to Scotland's climate change agenda and will supply the adjacent distribution centre, a major local employer, and as such is worthy of support. The visual and other effects will be either minimal or acceptable within the building's context; accordingly, it is recommended that planning permission is granted.

10 ATTACHMENTS

- Location plan
- Draft Conditions
- Plan and elevations
- Extract from the Government's publication 'A Biomass Action Plan For Scotland'

CHRIS NORMAN
Development Control Manager

Date: