

**Statws/Status:**  
**Cyfrinachol / Confidential**



<b>Adroddiad Adolygu Dylunio: Design Review Report:</b>	<b>19 June 2008</b>
<b>Dyddiad Cyfarfod / Meeting Date:</b>	<b>11 June 2008</b>
<b>Lleoliad/Location:</b>	<b>Trident Park, Cardiff</b>
<b>Disgrifiad o'r Cynllun Scheme Description:</b>	<b>Energy from Waste plant</b>
<b>Cleient/Asiant: Client/Agent:</b>	<b>Viridor Waste Management Ltd [Howard Ellard, Ian John]</b>
<b>Developer/Datblygwr:</b>	<b>As above</b>
<b>Pensaer/Architect:</b>	<b>Architecture &amp; Planning Solutions [David Butterworth]</b>
<b>Ymgynghorwyr Cynllunio: Planning Consultants:</b>	<b>SLR Consulting [Will Ryan]</b>
<b>Awdurdod Cynllunio: Planning Authority:</b>	<b>Cardiff CC [Peter Vaughan]</b>
<b>Statws Cynllunio: Planning Status:</b>	<b>Pre-application</b>
<b>Y Panel Adolygu Dylunio/ Design Review Panel: Alan Francis (cadeirydd/chair) Cindy Harris (swyddog/officer) Charlie Deng (swyddog/officer)</b>	<b>Kieren Morgan Ben Sibert Jonathan Hines Howard Wainwright</b>

**Lead Panellist:**

**Kieren Morgan**

**Sylwedyddion/Observers:**

**Lynne Sullivan, Design Review  
Panelist**

### **Cyflwyniad/Presentation**

This project has been driven by new European legislation, designed to reduce the amount of waste going to landfill. This plant will process 400,000 tons of pre-sorted waste per annum, and will serve the five Local Authorities of Cardiff, Caerphilly, Monmouthshire, Newport and the Vale of Glamorgan.

It was acknowledged that this is a very large building, whose impact cannot be hidden and should be celebrated. The team studied the site and likely visual impact from all major vantage points before beginning the design. It was decided to adopt an organic built form, to reflect the hillside backdrop to the north. The building is essentially an envelope for the various functions and processes and the layout is based on an efficient process flow. Although this is a secure site, there will be public access to a visitor centre, which together with office accommodation is located on the south side of the site. The main entrance is from Glass Avenue to the north. The site is surrounded by large industrial sheds which may become development sites, and there is planning consent for office use on one neighbouring site.

Future expansion space is indicated on the site plan, if a third line were to be built. The 80 metre high chimney stack is located independently of the building, to create a feature and give the necessary flexibility for any future expansion.

External materials include gabions at ground level filled with waste slate [assuming availability]; a blue-green polycarbonate forming a 'translucent wave' on the upper walls; and Kalzip standing seam panels laid at an angle, on the roof and lower walls. A sedum roof is shown on the low level offices and visitor centre. The aim is to use relatively inexpensive materials in an innovative way to achieve a sweeping, flowing built form. All materials will be reusable and demountable.

The developers are keen to use the low grade heat which would otherwise be a waste product of the process, to heat local homes and businesses. More than 120 organisations have been contacted about this possibility and the developers are discussing the potential with WAG [Ron Loveland]. Public consultation will be carried out during September/October and a planning application will be made in November 2008. A start on site is planned for late 2009, with a 2.5 year construction period.

Cardiff CC has not as yet seen any detailed proposals, and is awaiting the Environmental Assessment. They will be seeking views from statutory consultees.

### **Ymateb y Panel/Panel's Response**

The Panel commended the energy from waste strategy, as a more sustainable form of waste treatment than landfill. However, we thought it was essential to ensure that the low grade heat produced is used to offset fossil fuel energy use elsewhere. We welcomed the approaches that have already been made to existing organisations, while recognising that it is major new developments which are most likely to benefit from this. We urged the team to continue working with WAG and the major public landowners in the area to ensure that the necessary infrastructure is specified for all future projects of a suitable size and use. The Panel also emphasised the importance of including sufficient heat storage within the design and layout of the building, to enable the supply of district heating networks.

It was confirmed that more visual impact studies will be done, covering 21 viewpoints in all, and the Panel stated that these should include views from the north. There will also be a full traffic impact assessment produced, given the increase in heavy vehicular movement to and from the site.

The Panel questioned how the materials had been selected and sourced. We were told that a carbon footprint analysis was being carried out on all materials. Aluminium will always be recycled and the manufacturers of the polycarbonate have a policy of recycling old recovered material into new products. All panels will be easily demounted for recovery and reuse. The Panel thought that the green roof over the office building was rather tokenistic, and we suggested that it should be used more or not at all. The architect stated that he had used green roofs on similar projects that were in a more rural setting, but that he was treating this context as essentially urban and therefore would not want to see green roofs used extensively.

The Panel noted that the visitor centre was located on the opposite side of site from the main entrance and, while we understood the reasons for it facing south and towards the Bay, we suggested that there would be benefits in locating it closer to the entrance. The architect stated that this would compromise the efficiency of the process flows, and that the benefits of the southerly aspect and views had determined its location.

The Panel explored the possibility of sinking the building into the site more, but we were told that there was a danger of hitting the water table. The waste bunker will be sunk 10-15 metres below ground and boreholes are being dug at the moment to determine geotechnical constraints. The team thought that these constraints would limit any sinking of the whole building to

some 5 metres, which overall would not be worth the expense and disruption, especially as longer range views would be most significant.

With regard to the elevational treatment, we questioned whether the translucent areas bore any relationship to the processes taking place inside the building. For example, it seemed strange that the large rooflights were located over the ash storage and tipping areas, and the translucent facade wrapped around the air cooled condensers. The team stated that all internal areas will be well daylight, but we suggested that there should be a clearer relationship between internal function and facade treatment, and that the north and south elevations should respond to their different orientations. It was confirmed that this will be a 24 operation, although there will be no deliveries at night, and that the polycarbonate material will emit a pale glow in the dark.

The team explained that the nature of the waste to be processed would be roughly 50% residual municipal waste and 50% commercial waste, from the five Local Authority areas. There was likely to be direct delivery from Cardiff and Newport, and bulk transfer from the more distant areas. The option of transporting waste by rail had been explored but this would not be feasible over the relatively short distances involved, and it was pointed out that the railway line does not extend to Monmouthshire. The Environmental Impact Statement will include a full carbon footprint assessment of the whole operation, including considerations such as the current extent and impact of transporting waste and the reduction in methane emissions [a much more potent greenhouse gas than CO<sub>2</sub>] which would result from reducing landfill.

The Panel enquired about the need for acoustic protection and we were told that these were entirely enclosed procedures. The aim was to remove the noise at source so far as possible and consequently the turbine was housed in a concrete bunker and the building provided a residual acoustic envelope. The sealed processes, together with a positive air flow into the building in the tipping area, would mean that smells would not be a problem.

We were informed that the nearest similar [though smaller] facility to this one in operation, was located in Hampshire and that a similarly sized one was under construction in Slough. It was confirmed that the boundary treatment would be a six foot high metal chain link fence with planting, and there is already 24 hour manned security in place. If future expansion were to take place this would be to the north; the building profile would remain the same but get wider.

### **Crynodb/Summary**

The Panel welcomed the opportunity to review this scheme which is the first of its type in Wales. We recognise the environmental benefits of the proposal

and we consider the presentation to be an acceptable response to the site and the brief, with minor revisions necessary. In summary:

- We endorse the design approach and the handling of the mass of the building to reduce its bulk. We agree with the decision to site the chimney independently from the building.
- We note that more studies are needed to better inform the assessment of visual impact from all directions and traffic impact, along with a full sustainability strategy and carbon footprint analysis.
- While we understand the benefits of the offices and visitor centre facing south, we think that there is a dichotomy in its proposed location, especially if there is further expansion to the north, in which case the location of this building nearer the entrance could help break down the scale.
- We urge the team to maximise all possibilities for supplying low grade heat to local developments, and we think it is essential to include adequate provisions for heat storage at this stage.
- We would like to see a clearer relationship between the external facade treatment and the internal processes, and we think that the transparent areas on the north and south elevations should reflect the differing orientations.
- We would welcome the opportunity for a further review as the detailed design process develops.

**Diwedd/End**

**NB A Welsh language copy of this report is available upon request.**