

## Environment Agency Wales Public Consultation on Biomass Energy Development, Peboc Llangefni

### Environmental Permit Application EPR/VP3936FV/A001

This is the official submission from Biofuelwatch on the EAW consultation that covers pollutant emissions to air, water and soil, pertaining to this application. Please note that our evidence is based on the original AQ Assessment from the developer as the EA consultation closed before the applicant submitted a revised application with a modified Environmental Assessment.

1. Modelling is based on WID limits being observed, but the proposal includes no secondary NO<sub>x</sub> mitigation, only flue-gas recirculation. Without secondary NO<sub>x</sub> mitigation, there are serious doubts that the WID limit of 200 mg/Nm<sup>3</sup> NO<sub>x</sub> can be technically met. According to the IPPC Reference Document on the Best Available Techniques for Waste Incineration 2006: "Even with FGR, a de-NO<sub>x</sub> device is required for reaching, under any operational condition, a level of 200 mg/Nm<sup>3</sup>. [21, FNADE, 2002]" ([http://ftp.jrc.es/eippcb/doc/wi\\_bref\\_0806.pdf](http://ftp.jrc.es/eippcb/doc/wi_bref_0806.pdf), p.255). Similarly, the IPPC reference document for the Large Combustion Plant Directive ([ftp://ftp.jrc.es/pub/eippcb/doc/lcp\\_bref\\_0706.pdf](ftp://ftp.jrc.es/pub/eippcb/doc/lcp_bref_0706.pdf), Table 5.34) shows that with biomass grate-firing and without SCR or SNCR that level can be expected to be regularly exceeded. Although the figures in that document (as opposed to the BREF for Waste Incineration) relate to plants 50 MW and larger, there is no reason to expect a smaller plant size to improve those figures. The same document shows that for burning liquid fuels in power plants of less than 100MW, NO<sub>x</sub> emission rates of 150-300 mg/m<sup>3</sup> will be reached only if primary mitigation is combined with a de-NO<sub>x</sub> device. The document does not distinguish between biofuels and liquid fossil fuels, however industry figures by Waertsila (one of the main suppliers of bioliquid power stations using diesel engines) suggest that burning unrefined biofuels tends to result in significantly higher NO<sub>x</sub> emissions than burning light fuel oil and commonly in higher ones than burning heavy fuel oil ([www.cibse.org/pdfs/Niklas%20Haga.pdf](http://www.cibse.org/pdfs/Niklas%20Haga.pdf)). For liquid-fuel-fired diesel engines, flue-gas recirculation is not listed as Best Available Technique, or indeed as a NO<sub>x</sub> mitigation strategy.
2. We obtained a copy of the Environment Agency annual monitoring report for the Western Bioenergy Plant at Margam, Port Talbot. The annual emission rate of NO<sub>x</sub> for 2010 has been between 200 and 230 mg/m<sup>3</sup> - mostly above the WID limit of 200 mg/m<sup>3</sup>. Like the proposed EcoPellets plant in Llangefni, the plant in Margam uses neither SCR nor SNCR. The report further shows that NO<sub>x</sub> emissions are increased if a greater proportion of waste wood rather than virgin wood is burnt. This further supports our concern that the limit value for NO<sub>x</sub> emissions under the

WID cannot be met with the proposed design.

3. No evidence has been provided as to how EcoPellets believe that they can meet the limit value for NO<sub>x</sub> emissions. They have not cited any other plants, burning similar feedstock with similar technology that have succeeded in doing so. Furthermore they have listed a wide range of potential feedstocks without committing themselves as to which ones they will use in which proportions, making emission rates even less possible to predict.
4. If the NO<sub>x</sub> emissions rate was higher than predicted then the Process Contribution will also be higher. Furthermore, assessing the validity of the predictions on NO<sub>x</sub> appears impossible given that the AQ assessment does not say from which diffusion tube measurements background NO<sub>2</sub> levels have been taken (they only name the location of one of three of them).
5. We are concerned with level of air quality monitoring data within the vicinity of the proposed development, which should be a cause of concern as regards meaningful data gathering. The nearest continuous monitoring sites for PM<sub>10</sub> is a long way from Llangefny. There is precious little AQ monitoring on the island of Anglesey. Indeed, there are only three automatic monitoring sites of NO<sub>2</sub> but none is close to Llangefny. However, at one of them, adjacent to the Llanfair bypass, AQ objectives are being exceeded and increasingly so.
6. For acid deposition (corresponding to nitrogen and sulphur deposition), the critical load is being exceeded at several nearby protected sites (Table 6.25). At Anglesey Fens this is of particular concern as regards alkaline fen communities, the North Atlantic Wet Heaths and molinia meadows. The marsh fritillary butterfly is endangered throughout Europe and ecosystems like Anglesey Fens represent an important habitat stronghold for the species. Acid deposition, could also be an issue at Abermenai to Aberffraw dunes SAC, where there is a large population of petalwort *Petalophyllum ralfsii* and according to the Joint Nature Conservation Committee, this site is especially favourable for the survival of this species. Pillwort aquatic fern at Malltraeth Marshes SSSI could also be adversely affected by acid deposition.

At some of the above sites, the PC will be above 1% of the critical load. (Table 6.26)

On behalf of Biofuelwatch; Almuth Ernsting & Ian Lander