

I would like to thank Planning Officers for answering my questions so promptly.

As an energy project the top level policy NPS EN1 (National Policy Statement for Energy) needs to be considered. It says that electricity generation from gas is an important part of moving the UK's energy generation to renewables. Whether you agree with that or not, I'm hoping to persuade you that this shouldn't be located in St Philip's Marsh, or at least persuade you to ask for more information so you can make that decision at another time.

If the air quality or noise levels are unlawful and/or if other adverse impacts outweigh the benefits, you can refuse according to the NPS EN1 at 1.1.2. The NPPF (National Planning Policy Framework 2019) can be used to judge adverse impacts. The NPPF starts "The purpose of the planning system is to contribute to the achievement of sustainable development." This application does not meet that goal in this location. It will spurt out over 30,000 tons of CO<sub>2</sub>/year (carbon footprint of 6,000 people) and without the required 20% use of renewables, possible high pollution and noise levels.

**Note: Officers pointed out an issue with my first version regarding Carbon Monoxide limits. This version has corrected for that.**

#### **NPS EN1 consideration 1 - Are air quality and noise levels going to be unlawful?**

-It hasn't taken account of the Appeal Inspector's decision (Plutus 16/00719/F) that workers should be included in the analysis. Because of that oversight, pollution levels modelled in the report are under stated, workers much nearer the generators need to be considered. This may or may not make a difference to the NO<sub>2</sub> one hour levels, but should be questioned.

-The noise assessment report dismisses tonality (the noise generated at different frequencies). It says tonality isn't relevant over distance, this isn't the case. It was a reason for DCB's deferral of Plutus application in 2016; In the final Plutus report that came back to DCB they added 6dB more. Add 6dB to the levels here could cause an unlawful noise level.

**All the above can be resolved by better data, modelling and then appropriate mitigation.**

#### **NPS EN1 consideration 2 - Do the adverse impacts outweigh the benefits?**

-The current Local Plan requires development to mitigate its CO<sub>2</sub> emissions by 20%. This could be done by insisting on the use of 20% biogas (Bristol Energy offers contracts with 15%), installing some solar cells or paying the Council to offset (via a S106 agreement, like that agreed for The Brewery by DCA this March). The Planning Officer admits in their report that this 20% is not complied with.

-The new NPPF has a brand new policy (at 117 and 123(c)). It's about the need to use land efficiently when land is short. It gives a Committee the power to refuse. This site is pretty central and land supply is short, St Philip's Marsh is in the New Local Plan scheduled for regeneration including some housing and possibly student accommodation. The proposed generators will occupy 0.126 hectares of prime city centre land but create just two jobs. For other industrial types this amount of land could enable 15 new jobs all the way up to 100 jobs depending on use. For two jobs it is a waste of a prime site. Put the generators somewhere else where land is not short. These generators are planned to run 25 years. Imagine, in 2045, an oasis of noise and pollution surrounded by business, homes and retail.

**More information on both impacts is on page 2.**

Finally and as if that wasn't enough the Clean Air Plan update is due to come to Cabinet on 4<sup>th</sup> June. It will be released in just a few days. I asked for it to be released for this meeting.

**If you wish to read on, my actual report fills the next 7 pages....Sorry!  
Report Detail 18/05628/F. Cllr Clive Stevens – 12/5/19**

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### **Executive summary:**

#### **Potentially illegal levels, can be resolved with further information**

- Air quality: Locations of sensitive human receptors (the term receptors means people). The Appeal Inspector for Plutus application turned it down because neither the applicant nor the Council took account of workers nearer to the generators. Workers have been excluded from this Air Quality Report too (see 5.1 of the report). People much closer to the plant could be exposed to NO<sub>2</sub> concentration over one hour time periods. (AQ2 on page 3)
- Noise level assessment hasn't taken account of tonality. For the Plutus application this added 6dB. For this one, the different noise levels at different frequency bands haven't been measured nor modelled. It could increase the noise to the nursery school and other workers well over the limits. This could be solved with noise abatement (N3 on page 5)

**Further information on nearby workers short term exposure to NO<sub>2</sub> and noise tonality could allow DCA to determine this application.**

#### **Non compliance with Planning Policies**

- non-compliance with BCS13 and BCS14, 20% use of renewables. This gives DCA grounds for a condition to use 20% biogas (even my Bristol Energy contract is 15% biogas), or generate some power by solar cells or pay a S106 agreement (for example as per 18/04367/F approved by DCA on 3/4/19). Officer admits in their report that it doesn't meet policy.
- (in)effective use of land contrary to brand new NPPF policies 117 to 123(c); these clauses could give DCA grounds for refusal. Bristol's Planning Authority has the Urban Living SPD that enacts this policy for "homes", Bristol has done nothing yet to enact it for "and other uses". It is in the NPPF and should be considered. Clause 123 states it applies when there is a "shortage of land to meet identified housing needs". That applies across central Bristol. This is dealt with in more detail at Appendix 3. Appendix 4 (page 8 below) shows a Government planning document issued every five years showing typical employment densities expressed as square meters per job. You can see they range from 14sqm to 90sqm, only data centres are less densely populated by workers. The scheme before you, if you assume 2 workers, maybe less as it is remote controlled apparently, is 612sqm per job; so hugely wasteful of a prime site. New housing schemes are being developed right next to St Philip's Marsh now e.g. Silverthorne Lane. Think long term; the impact of an approval for this generator scheme which will be still there in 2045 and maybe beyond.

The appendices (below) list fifteen issues. Some may be minor or not even exist but questions could be asked. Add the sheer amount of CO<sub>2</sub> produced, the lack of renewables, ineffective use of land and Clean Air Plan and that's 19 in total that need answering please.

**Appendix 1 - Air quality (9 issues, 1 key).****There is one key issues (AQ1) and many others less key.**

AQ1 - The Appeal Inspector for 16/00719/F (Plutus) cited air quality modelling errors (at 5 and 8) and determined that the Air Quality analysis should identify workers as human receptors too (at 6). Once they included workers as receptors then locations nearer the generators were identified with illegal levels. And so Plutus failed. We have the same problem here, incorrectly ignoring workers. The problem may not be NO<sub>2</sub> exceedencies (an exceedance is a 1 hour time slot where the NO<sub>2</sub> > 200ug/m<sup>3</sup>) this time..

The Appeal Inspector in Plutus (at 6) stated the fact the workers are paid to be in that location is irrelevant to the level of harm done to them. Can you imagine a defence implying; “these workers don’t matter, they are paid to be poisoned”.

Other issues in the Air Quality report which suggest the need for further modelling are:

AQ2 – NO<sub>2</sub>; Most of the NO<sub>2</sub> modelling for this application 18/05628/F has been about predicted small changes in annual concentrations. Hourly concentrations haven’t been considered presumably because the consultants chose human receptor (people) locations like the nursery school where concentrations above 200ug/m<sup>3</sup> are very unlikely. But if you include workers as human receptors and where they are employed much nearer the generators they may be exposed to higher background levels (e.g. at rush hour) the one hour maximums in the model shows hourly concentrations of NO<sub>2</sub> could get to 100ug/m<sup>3</sup>. You might decide that with these generators running twice a day most days and for 2,132 hours or more it’s not difficult to envisage in very still atmospheric conditions that for an hour or two that NO<sub>2</sub> air pollution could get close to or exceed 200ug/m<sup>3</sup>. If this happened on 18 out of the 2132 hours it would be an unlawful level of NO<sub>2</sub>. We don’t know if this would happen because the locations of nearby workers (human receptors) haven’t been modelled. This could easily be modelled without the need to collect more data.

AQ3 - The impact of buildings nearby changes the wind dispersion of the pollution and so the local pollution can increase on windless days. For 1 hour concentrations this effect is shown in their report at table 7.3. But what they haven’t modelled is the effect of eight 12m high evergreen Austrian Pine trees right next to the site. This is likely to shelter the stacks from wind and lead to higher concentrations for certain wind directions. Figure 3 in the Air Quality Report’s appendix shows the buildings modelled but not the trees and Figure 8 shows the pollution dispersion without the trees. (By the way the Tree Officer confirms that the hot exhaust gases won’t harm the trees themselves).

AQ4 - Some hours of operation coincide with peak traffic flows thus increasing short term pollutants this could be relevant for 1 hour pollution levels for NO<sub>2</sub> taking worker locations into account.

AQ5 - For Plutus, the dispersion modelling was done both in winter and summer. This hasn’t been done here.

AQ6 - There are questions to ask about the two engine specifications. Both refer to a USA Natural Gas heat value of 35.6 MJ/m<sup>3</sup>. The UK spec is 37.5 to 43MJ/m<sup>3</sup>. How would that affect the emissions. The specification refers to an air relative humidity of 30%, Bristol's humidity is rarely that low. The specs. refer to an ambient air temperature of 25deg C, what is the impact on emissions when the ambient air temperature is 0 degrees C? The engine specs are without fan, so the engine specs are perhaps based on them running hotter which is sometimes more efficient running, so cooler could be less efficient and change the emissions. The Caterpillar spec sheet says to contact the dealer for such information, has someone done that?

AQ7 - Although the running time of these engines is modelled at 2132 hours per year there is nothing to stop them being run for longer and so adding further to pollution and CO<sub>2</sub> output. Air quality modelling of the peak emissions times around rush hour could be asked for. Finally there should be automatic signalling of the times to Planning Enforcement (easily done).

AQ8 - The wind rose was quite different in 2010 to other years, the Air Quality Report doesn't model 2010 nor 2018 which was a heat wave summer.

AQ9 - NPPF paragraph 170(e) reads:

Planning policies and decisions should contribute to and enhance the natural and local environment by:...(e) preventing new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability.

The NPS allows refusal if air quality levels are unlawful.

Therefore, for these above reasons Committee, I don't think that you have enough information to decide whether the emission levels of CO (or perhaps NO<sub>2</sub>) are unacceptable to workers employed very near the generators and so whether levels of CO breach the air quality objectives.

**Appendix 2 - Noise levels (5 issues, 1 key)....**

I have been fortunate enough to have had help from a professional acoustic engineer to evaluate the V5 Noise Assessment Report of April 2019. I was provided with five pages of analysis and concerns and can provide that evaluation if you wish.

The main issue is lack of tonality information (see N3 below). Those of you on DCB in the summer of 2016 will remember lack of tonality was one of the key reasons for deferral then. Plutus eventually paid to get the tonality assessed and it added 6dB to the figures. This should be done for these 3 generators noise rated at 60.8dB (at 10m) and the 3 radiator fans rated at 62dB (at 10m). They will all have different tonalities.

N1 - There is a failure to follow the BS standards for acoustic measurements and modelling. BS7445 states ambient noise assessments should have weather and calibration data. Neither is shown, casting some doubt on the accuracy of background measurements.

N2 - Additionally the noise map doesn't seem to take account of the noise sensitive receptors (i.e. people) in #3 building. It is not stated if sound reflections are taken into account in the noise map. It is unclear what the height of the noise receivers (the worst affected windows), nor the modelled height of the noise sources (generators and radiator fans) especially as they have been raised up to minimise flood risk. The drawings show fans are between 2m and 4m off the ground. We have assumed that the noise modelling accounts for all 6 noise sources added together, it doesn't actually say.

N3 - The noise levels of the equipment are provided by the manufacturers. In which case our engineer says the full data set should be provided. According to BS4142, the noise expected from the generators and fans needs to be adjusted for tonality and for intermittency (these generators and fans will be switched on and off), and possibly for impulsivity. Each of these three issues are assessed and then given rating penalties.

- Regarding tonality, the report says this will be imperceptible, with no justification according to the engineer. In the report it mentions this is due to distance. That can't be right especially for people nearby. The noise modelling for the Plutus application (v5 Oct 2016) included an extra 6dB for tonality and that was at greater distances. Background levels have not been compared to the source levels in the octave bands. BS4142 suggests that if a noise source is tonal then an adjustment of up to +6dB should be added.
- Similarly intermittency (on and off, of fans especially) add + 3dB.
- Impulsivity doesn't seem to be a problem.

Without the extra analysis and possibly measurement of background tonality and intermittency you can't judge how harmful the additional noise will be from the generator sets and radiator fans.

N4 - Noise "break-in" to offices, nursery schools... An allowance should be made for open windows in such locations. WHO state an open window provides - 10 - 15dB of sound attenuation. In such instances BS8233 Indoor ambient noise levels could be exceeded. This might require you to condition the hours of operation to be outside normal school and office hours. A more thorough assessment of the break-in through nearby windows should be carried out, where the workers are. The acoustic engineer wrote "it will be quite noisy in the school if they open the windows".

N5 - Pages 20 & 21 of the acoustic report (DCA papers pages 143 & 144) assesses the total

uncertainty in their assumptions, the total is judged at 1dB. Many uncertainties have just been listed and it is extremely unlikely they add to just 1dB, they could be much more, just allow for tonality, intermittency, reflections off buildings and open windows at school and in a worst case could add up to plus 10dB more.

So in conclusion, there is much uncertainty over the noise predictions and much has been left out of the report. This information needs to be provided for you to assess whether NPPF para 170(e) is met. “preventing both new and existing development from contributing to, being put at unacceptable risk from, or being adversely affected by, unacceptable levels of soil, air, water or noise pollution or land instability.”

The NPS allows refusal if noise levels are unlawful.

One final thought, if you are minded to give permission today, you might wish to ask a Planning Officer first to advise whether NPPF 170(e) would then apply to future planning applications in the area, for example for new offices or even dwellings. Because new development proposals could be adversely affected by noise pollution from these generators and with “agent of change” protecting the rights of the generators to create noise then it would add more cost and conditions to those wishing to regenerate the area and if it’s a housing development then less affordable housing.

**Appendix 3 NPPF Section 11 “Making Effective Use of Land”**

**This is pretty new in the NPPF and some brand new. These are the relevant clauses and my commentary is in bold below each...**

NPPF 117. Planning policies and decisions should promote an effective use of land in meeting the need for homes and other uses, while safeguarding and improving the environment and ensuring safe and healthy living conditions. Strategic policies should set out a clear strategy for accommodating objectively assessed needs, in a way that makes as much use as possible of previously-developed or ‘brownfield’ land.

**Re 117 above: first line is “effective use of land for homes and other uses”. This application is for “other uses” but this clause applies.**

NPPF 122). Planning policies and decisions should support development that makes efficient use of land, taking into account:

122(a) the identified need for different types of housing and other forms of development, and the availability of land suitable for accommodating it;

**Re 122 and 122a above: These introduce the new term “efficient use of land”. For this site there are identified needs for the land and surrounding areas for currently employment and industrial and in 2020 probably regeneration. As you will see from Appendix 4 (employment densities, see next page) the use of this land for such a jobless activity in central Bristol is an inefficient use for its purpose of providing industry and employment sites.**

NPPF 123). Where there is an existing or anticipated shortage of land for meeting identified housing needs, it is especially important that planning policies and decisions avoid homes being built at low densities, and ensure that developments make optimal use of the potential of each site. In these circumstances:

**Re 123: There is a shortage of land in central Bristol to meet identified housing needs (especially the identified need of affordable housing). Sites like this with relatively low land prices are perfect for high % affordable housing and or employment opportunities freeing up other land for affordable housing. Therefore developments must make “optimal use of the potential of each site”. The potential of this site is vast. I argue that electricity generation here in St Philip’s Marsh is not making optimal use of its potential.**

NPPF 123(c) local planning authorities should refuse applications which they consider fail to make efficient use of land, taking into account the policies in this Framework.

**Re 123c: Committee, I read this clause meaning you can refuse this application if it fails to make efficient use of land. But due to the NPS (EN1) fettering your decision criteria you could decide that such an inefficient use would be a significant adverse impact; Plus along with the lack of 20% renewables perhaps sufficient to refuse. Officers would need to advise you.**

Also in 123c. “In this context, when considering applications for housing,

**Above: This is more evidence that all of the clauses 117 to 123 apply to applications for both housing and other uses. Here it goes on to add further criteria if it is an application for housing (which this isn’t).**

## Appendix 4 Employment Densities

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/484133/employment\\_density\\_guide\\_3rd\\_edition.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/484133/employment_density_guide_3rd_edition.pdf)

Homes &amp; Communities Agency

Employment Density Guide 2015

## 4. Employment density matrix

Use Class	Sub-Category	Sub-Sector	Density (sqm)	Notes
B1a Offices	General Office	Corporate	13	NIA
		Professional Services	12	NIA
		Public Sector	12	NIA
		TMT	11	NIA
		Finance & Insurance	10	NIA
	Call Centres		8	NIA
B1b	R&D Space		40-60	NIA lower densities will be achieved in units with higher provision of shared or communal spaces
B1c	Light Industrial		47	NIA
B2	Industrial & Manufacturing		36	GIA
B8	Storage & Distribution	National Distribution Centre	95	GEA
		Regional Distribution Centre	77	GEA
		'Final Mile' Distribution Centre	70	GEA
Mixed B Class	Small Business Workspace	Incubator	30-60	B1a, B1b – the density will relate to balance between spaces, as the share of B1a increases so too will employment densities.
		Maker Spaces	15-40	B1c, B2, B8 - Difference between 'planned space' density and utilisation due to membership model
		Studio	20-40	B1c, B8
		Co-Working	10-15	B1a - Difference between 'planned space' density and utilisation due to membership model
		Managed Workspace	12-47	B1a, b, c
B8 / Sui Generis	Data Centres	Wholesale	200-950	
		Wholesale Dark Site	440-1,400	
		Co-location Facility	180-540	
A1	Retail	High Street	15-20	NIA
		Foodstore	15-20	NIA
		Retail Warehouse	90	NIA
A2	Finance & Professional Services		16	NIA
A3	Restaurants & Cafes		15-20	NIA
C1	Hotels	Limited Service / Budget	1 per 5 beds	FTE per bed
		Mid-scale	1 per 3 beds	FTE per bed
		Upscale	1 per 2 beds	FTE per bed
		Luxury	1 per 1 bed	FTE per bed
D2	Fitness Centres	Budget	100	GIA
		Mid Market	65	GIA – both types tend to generate between 40-50 jobs per gym
		Family		
	Cinema		200	GIA
	Visitor & Cultural Attractions		30-300	The diversity of the cultural attraction sector means a very wide range exists
	Amusement & Entertainment Centres		70	Potential range of 20-100sqm