MEMO Project Trustees
c/o The Heights Hotel
Isle of Portland
DT5 2EN

23rd November 2020,

We object to the Powerfuel proposal on the ground set out below.

AIR QUALITY AND HEALTH

In a flat landscape, the design of the plant and chimney may well ensure that emissions are dispersed high above housing. However the particular topography of Portland means that a great deal of the housing closest to the plant will in fact be above chimney level thereby exposing residents to much higher levels of emissions that would be the case in a different landscape context. Any dangerous particulate matter in the fly ash will therefore represent a greater level of danger to local residents on Portland than it would in the flatter landscape in which such plant is customarily built.

BIODIVERSITY

Portland is the most biodiverse part of Dorset. The SAC and SSSI designations on the island are largely underpinned by the ecology associated with limestone grassland and cliffs which have an important amount of plant and insect species diversity.

The 180K tonnes of CO2 which would be emitted p.a. by the incinerator each year will have a significant effect on the PH of rainfall locally within the range of the chimney. This has the potential to undermine the necessary alkaline conditions essential to the health of the SAC and SSSI, the entirety of which are within chimney range.

The important thing here is to understand the scale of change entailed. With the incinerator operational for c. 8150 hours per year, the PH of 90% of rainfall on SAC and SSSI limestone grassland would be altered. Counter to the "negligible change" asserted by the developer (section 10.129 Natural Heritage Report) this represents a significant change in environmental conditions which can be expected to impact throughout the ecosystem accordingly.

The 3% fly ash figure also represents an additional 5460 tonnes per annum of otherwise extraneous solid matter, a significant proportion of which will inevitably fall on land and sea locally, also having a significant impact on biodiversity.

ECONOMICS

Given all of the above and the projected traffic movements, 35 long term jobs seems like an inadequate economic return for the island. However, in line with the Portland Economic Vision, we believe that a concerted effort to take advantage of the renewable energy opportunities that Portland and the Port area present could, within the timeline set out by the Port to stabilise its shore power offer, present a significant option and open up a wider potential for greater numbers and higher value employment.

ENERGY

Referring to the electricity produced as "low carbon" is extremely misleading. Powerfuel's own figures show that the proposed plant will emit a little over four times as much carbon dioxide as a modern gas power station to produce the same amount of electricity. Even if the carbon emissions from the "biogenic" part of the refuse-fuel are not counted at all the proposed plant would still emit about twice as much carbon dioxide to produce the same amount of electricity as a gas power station would. Comparisons with wind or solar would obviously be starker still.

The "low carbon" moniker is usually justified on the basis that the biogenic part of the fuel is "renewable" and a fuel which is "partly renewable" is therefore "low carbon". Renewable-ness is a bit of a red herring here because the scarcity of the alternative (gas) is not an issue and in terms of carbon the non-renewable fuel performs much better!

Even with a "carbon score" of zero for the biogenic part of the fuel, this fuel, burnt in the way proposed in the application, will still emit **fossil** carbon at twice the rate as the comparator to produce the same amount of electricity. As a fuel source this is extremely "high carbon" energy.

WASTE

The only question then is whether this technology represents a "low carbon" solution when the waste disposal aspect is added.

The developer's calculations of "savings" on greenhouse gas emissions by the incinerator over the comparator scenario rely entirely on making a distinction between methane emissions and C02 emissions in the breakdown of the biogenic component of the refuse-fuel. Methane emissions are counted - but C02 is not.

A fair and clear comparison would be simply to measure ALL greenhouse gases emitted in producing the same amount of electricity, and processing the same volume of waste, for both the incinerator and the comparator scenario.

Accepting Powerfuel's chosen comparators (gas power station + landfill) and retaining all other assumptions made by Powerfuel's consultants, a "level playing field" comparison yields a figure of **c. 42,000 tonnes of C02 equivalent (tC02e) more greenhouse gas emitted**

each year by the incinerator. Even in Powerfuel's best case scenario of maximum electricity performance + heat used + shore power, this figure would still be 27,000 tC02e p.a. more than the comparator scenario.

CARBON SEQUESTRATION

This is entirely to be expected. With the gas power station/landfill scenario a large proportion of the carbon, both fossil and biogenic, would be sequestered long term in the ground whereas with the incinerator 100% of it goes up the chimney. This aspect significantly outweighs the greater greenhouse potency of the methane fraction of landfill emissions based on the developer's own detailed assumptions.

The developer's report asserts that sequestered carbon should not be counted as a carbon credit because of assumptions such as a "conservative" landfill gas capture rate. However no calculations are offered to justify the fairness of such a "trade off". Meanwhile in a different context the principle of sequestration is central to the Developer's pledge that the plant be carbon neutral over its lifetime. Ignoring sequestration in one context – but counting it in another - is "having your cake and eating it".

The Paris Climate Change Agreement requires parties to "*promote environmental integrity, transparency, accuracy, completeness, comparability and consistency*" in their nationally determined contributions. This kind of creative carbon accounting in the developer's report does not meet this requirement and nor should it satisfy a Council which has declared a Climate and Ecological Emergency.

LONG TERM IMPLICATIONS

The Environment Bill 2020 includes ambitious targets for waste management all of which will diminish the supply of refuse as a fuel:

- mandatory separation of commercial waste at source - 2023
- mandatory weekly organic waste collection from households - 2023
- 65% recycling rate by 2035
- elimination of plastic waste by 2042
- net zero avoidable waste by 2050

Measures like these coming in are among the reasons for Powerfuel's own projections that the carbon benefits of the plant could "go negative" by 2038 - only 14 years into the 25 year projected lifespan of the incinerator.

In April 2019, DEFRA minister, Therese Coffey, stated that "additional residual waste energy capacity above that already planned to 2020 should not be needed if we achieve our recycling targets."

Conversely, the experience of neighbouring Hampshire suggests that once incineration plant has been built the economic necessity to "feed the beast" can actively depress drives to

increase recycling which the “waste hierarchy” demands. Under such circumstances the 25 year+ longevity of plant can mean incineration becoming an actively a negative driver within the waste hierarchy.

Dorset, (including Bournemouth Poole and Christchurch in the DWP) has an excellent record on recycling - but zero incineration capacity. Meanwhile Hampshire (including Southampton and Portsmouth), with considerable incineration capacity since the millennium, has a poor record on recycling. The article about Hampshire at the link below is now quite old but the dynamics described could easily play out in Dorset in the context of long term Council contracts for incineration.
https://www.endsreport.com/article/1563514/hampshire-broadens-its-incinerator-inputs

Even today, the councils up and down the land which have analysed the composition of black-bag waste have all concluded that something like 50% is already recyclable today. The “waste hierarchy” principle, enshrined in Government policy, demands efforts to recycle this existing material should outweigh the drive to burn it. New separation technologies like “Renescience” piloted currently in Northwich, and championed in the Government’s 2018 Waste Strategy for England, have the potential for recycling rates higher than 80%. Surely this is the way we should be going.

By comparison with such possibilities - and other innovations sure to emerge over the next 25 years - an incinerator would be a retrograde step for Portland- yesterday’s technology solving yesterday’s problems and thereby potentially inhibiting tomorrow’s benefits. The Council has declared a Climate and Ecological Emergency and should reject this proposal.

It would be wonderful instead to see those behind this proposal putting their knowledge and expertise in renewables to realising the immense potential for wind, wave and tidal energy on and around Portland, thereby solving Portland Port’s need for shore power, as well contributing to net zero carbon by 2050.

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