



Sir David Attenborough  
5, Park Road,,  
Richmond,  
Surrey TW10 6NS  
1<sup>st</sup> November 2021

Dear Sir David Attenborough,

We were delighted when we saw the announcement of the Earthshot Prize and we fully supports its aims to search for innovative solutions to Climate Change around the world.

However, having watched the series we are shocked and disappointed that the BBC presented Copenhagen's controversial incinerator among clean air initiatives. This coverage disregards the unambiguous conclusion of Danish experts: **'The process of burning trash is inherently polluting – you can put state-of-the-art pollution controls on an incinerator, but that doesn't make the facility clean'**. The series also fails to mention the Danish government's ongoing efforts to reduce incineration capacity by 35% by 2030 to meet its goal for a climate neutral waste sector and its establishment of a stranded pool to compensate local authorities for stranded energy-from-waste (EfW) decommissioning costs.

The claims that the Copenhagen incinerator 'improves air quality' and provides 'low-carbon heat' are demonstrably false: **EfW plants produce a toxic cocktail of pollutants** and they emit up to **four times more CO2 than the grid average.**

We are writing to you to challenge the misleading information contained in the programme. We are particularly concerned that this section in the Earthshot programme is now being used by the North London Waste Authority to argue in favour of a similar incinerator to be built in Edmonton, North London, in one of the most deprived communities in the UK.

The main points that we wish to correct are:

**Advanced technology to remove pollutants is not sufficient**

It is claimed that the incinerator has the most advanced technology – Selective Catalytic Reduction – to reduce the amounts of nitrogen oxides (NOx) emitted. However, in-situ tests demonstrate that whilst this technology does reduce NOx, it also results in increased amounts of particulates released at the stack, as well as more greenhouse gases.

Moreover, laboratory experiments have demonstrated that no amount of filtering and scrubbing is capable of stopping the release of **ultra-fine particulates (PM 0.1)** – which also happen to be the most dangerous, as they can enter and damage all organs of the body. This is because these tiny particles carry highly toxic substances, such as dioxins and heavy metals.

With regard to the particulate matter and nitrogen dioxide we wish to highlight the recent World Health Organization report that calls for drastic reductions in the permitted amounts



of these pollutants. The WHO also said that there is **no safe limit to particulate matter** and – based on the more recent body of research – now the same applies to **nitrogen dioxide**.

*Conclusion: there are compelling arguments for the application of the precautionary principle in considering the polluting effects of waste incineration. Increasing the capacity of incinerators goes against this principle.*

### **Waste incinerators are not a source of low-carbon energy**

For each tonne of incinerated waste 1.1 tonnes of carbon dioxide (CO<sub>2</sub>) are released into the atmosphere. A simple calculation shows that in 2019-20 the total amount of CO<sub>2</sub> released by waste incinerators in UK has reached 12.7 million tonnes. Furthermore, the carbon footprint of energy from incineration is exceeded only by that from coal.

Waste-to-energy incinerators represent business as usual. The EU has already recognised the need for a change by removing them from the ‘sustainable industry’ category. Wales recently imposed a moratorium on waste incinerators, and it is likely that Scotland will follow suit.

As for being the source of heat for the district heating network, we recommend to look more closely to home and study the situation of the heating network linked to **the Beddington incinerator in Sutton**: residents have endured frequent outages and exorbitant bills that should serve as a warning. District heating networks should be powered by ground or air source heat pumps, a readily available technology using energy from the decarbonising grid, and not dirty energy produced by an incinerator.

### **Waste incinerators are a significant disincentive to recycling**

North London has one of the lowest recycling rates in the UK – 38.5%. More often than not, low recycling rates are obtained in areas using waste incinerators.

For example, North London Waste Authority’s financial reports from 2014 to the present make it clear that the authority has invested heavily in developing the plans to build another incinerator, spending an average of £1.7 million a year to this aim (a total of £12 million to date). By contrast, the authority has spent an average of only £600 thousand per year on initiatives promoting waste reduction and recycling. The NLWA is talking a lot about the need to reduce waste and increase recycling, but the facts (28.5% recycling rate) and the money invested speak for themselves.

Burnt materials are lost forever. This is especially of concern because **up to 80% of the waste** that is currently incinerated in England could be recycled and composted.

*In conclusion, given that the UK is on the eve of hosting COP26, waste incineration should be considered through the prism of the climate emergency. The Climate Change Committee, advising the UK government, has called for an urgent ‘step-change towards a circular economy’ away from incineration and associated fossil CO<sub>2</sub> emissions and ‘towards a reduction in waste arisings and collection of separated valuable resources for reuse and recycling’. The much-touted carbon capture and*



*storage technology is not available at large scale; and even if it does become available in the future, its added costs will create further and unnecessary burdens for taxpayers. Rather than relying on future technologies, there are much cheaper options available now, based on the principles of the circular economy: Reduce-Reuse/Repair-Recycle. Existing technologies are capable of extracting all the recyclables which are destroyed through incineration at present.*

### **A waste incinerator is a source of pollutants, not of clean air – the case of the Edmonton incinerator**

The Edmonton incinerator – or the North London Heat and Power Plant in euphemistic speak – claims to be a sister plant to the one in Copenhagen and “a pioneering solution for cleaning up the city’s air”. However, a closer look at the facts shows that it is actually a source of toxic emissions which are added to the already polluted air in Edmonton and surrounding areas. The information about the pollutants emitted by the Edmonton incinerator comes from **London Energy Ltd (LEL)**, the company operating the Edmonton incinerator, themselves:

1. The Edmonton incinerator burns a variety of materials, which include plastics (16%), food waste (35%), cardboard and paper (20%), glass, metals, textiles. Between 50-85% of these materials can be recycled or composted. The burning of these materials releases a number of toxic chemicals, as well as vast amounts of greenhouse gases.
2. A study of the **Annual Performance Reports** by London Energy Ltd (LEL) from 2018 and 2019 shows that emissions of a number of **toxic substances** are monitored on a continuous basis: *hydrogen oxides, sulphur dioxides, nitrogen oxides, total organic carbon (TOC), particulates, carbon monoxide and ammonia*. Additionally, a number of highly toxic substances are monitored on an intermittent basis, two or four times a year, among them *mercury, cadmium and thallium, plus a number of other heavy metals, dioxins, furans, hydrogen fluoride*. The reports reveal that the legal limits for many of these pollutants are routinely exceeded. For example, carbon monoxide levels appeared to be in excess routinely, sometime even by 400%!
3. The 2018 Performance Report reveals that there have been **11 identified incidents when some of these substances exceeded the permitted legal limit**. These include *carbon monoxide, hydrogen chloride, as well as Air Pollution Control (APC) residues*. We wish to draw special attention to **APC residues**, which are highly toxic and require special treatment before being sent to landfill.
4. LEL’s 2019 Performance Report identifies **24 incidents when monitored toxic substances exceeded the legal limit**. Besides the substances already mentioned, there were also excess quantities of **sulphur dioxide, ammonia, particulates and mercury**. **Mercury released into water/sewage was found to be on average 5 times above the legal limit.**
5. The study of the health effects of these pollutants is complex and challenging, but more recent studies have found ways to distinguish between the effects of pollutants from



incinerators and those coming from other sources. Laboratory studies have shown that particles emitted from incinerators have the capacity to damage the functioning of living cells, including DNA. Other studies have demonstrated that toxic heavy metals emitted by incinerators accumulate in the bodies of children.

6. The cumulative effects of exposure to waste incineration pollutants have not been studied sufficiently, a fact acknowledged by all researchers. What we know for sure is that air pollution is linked to many acute and chronic complaints, among them respiratory, heart and circulation disease and cancer. We should all remember Ella Adoo-Kissi-Debrah, the 9 year old girl whose early death was recognised by the inquest judge to be linked to air pollution.

**We in Enfield really want to support the great ambition of the Earthshot Prize but at the moment with the 3<sup>rd</sup> episode of the programme seemingly supporting a project that will blight and contaminate our community for years to come it makes it impossible for us to recommend it. We are begging you to take another look and to clarify that you are not endorsing incineration, or the Incinerator planned for Edmonton.**

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