Greenwashing in North London - who to believe?

- how it affects Council tax, how it affects pollution and how it affects the planet

For Encaf and Haringey Climate Forum event 28th Sept 2022

Sydney is a member of Haringey Climate Steering Group - but all research and conclusions her own

A North London example of carbon 'accounting' of incineration being used to claim that high carbon solutions are low carbon solutions.

DID YOU KNOW?

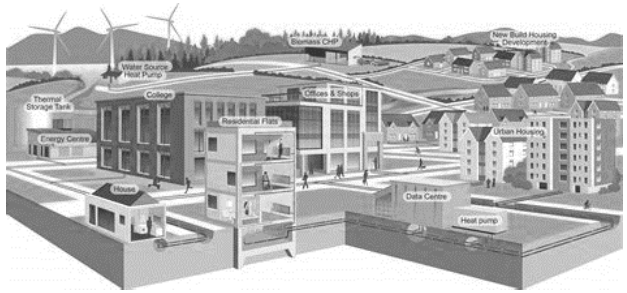
- **The Edmonton Incinerator adds 700 000 tonnes of CO_2 each year.**
  - ***That's the equivalent of 114,000 return trips to Australia.***
- **NLWA states that the incinerator will only emit 28,000 tonnes… How?**

700,000 tonnes CO_2 a year comes from…

Burning green waste
381,500 tonnes CO_2

+

Burning non-green , fossil waste: plastics, textiles etc
318,500 tonnes CO_2



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The burning of material produced by living organisms ('biogenic') such as food and trees, for energy is the subject of IPCC* disputes.

Anaerobic digestors break down organic waste in the absence of oxygen producing 'green gas' and residue without dangerous methane – so should be used rather than burning

*The **Intergovernmental Panel on Climate Change** (IPCC) had internal disputes on whether the emissions from 'biogenic' matter being burnt should be recorded as **a) emissions from energy** or **b) as zero emissions** which assumes that new matter will be grown and that emissions from rotting matter avoided. Calling them 'zero emissions' in National accounting reports has allowed the expansion of the incineration industry and cutting down forests in America to burn at Drax.

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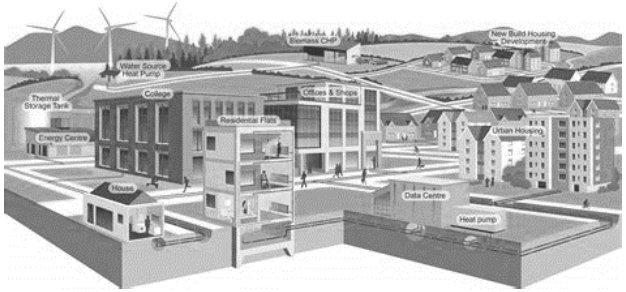
2 NLWA **<u>deducts</u>** **<u>196,700</u>** tonnes **CO_2** from this amount saying that electricity from waste replaces electricity generated from alternative sources which have large **CO_2** emissions, such as coal and gas

Disregards decarbonisation of the grid since original calculations and as the UK goes forward to net zero



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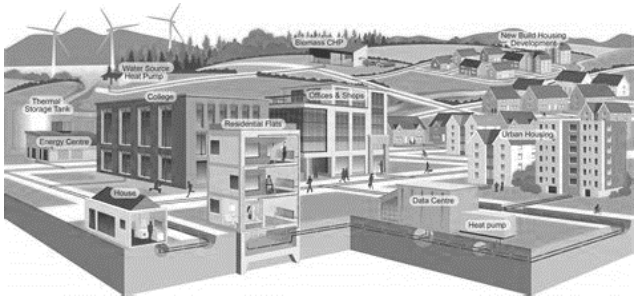
Heat from incineration is the worst carbon option according to latest research and recommendation by build professionals passionate about zero carbon buildings

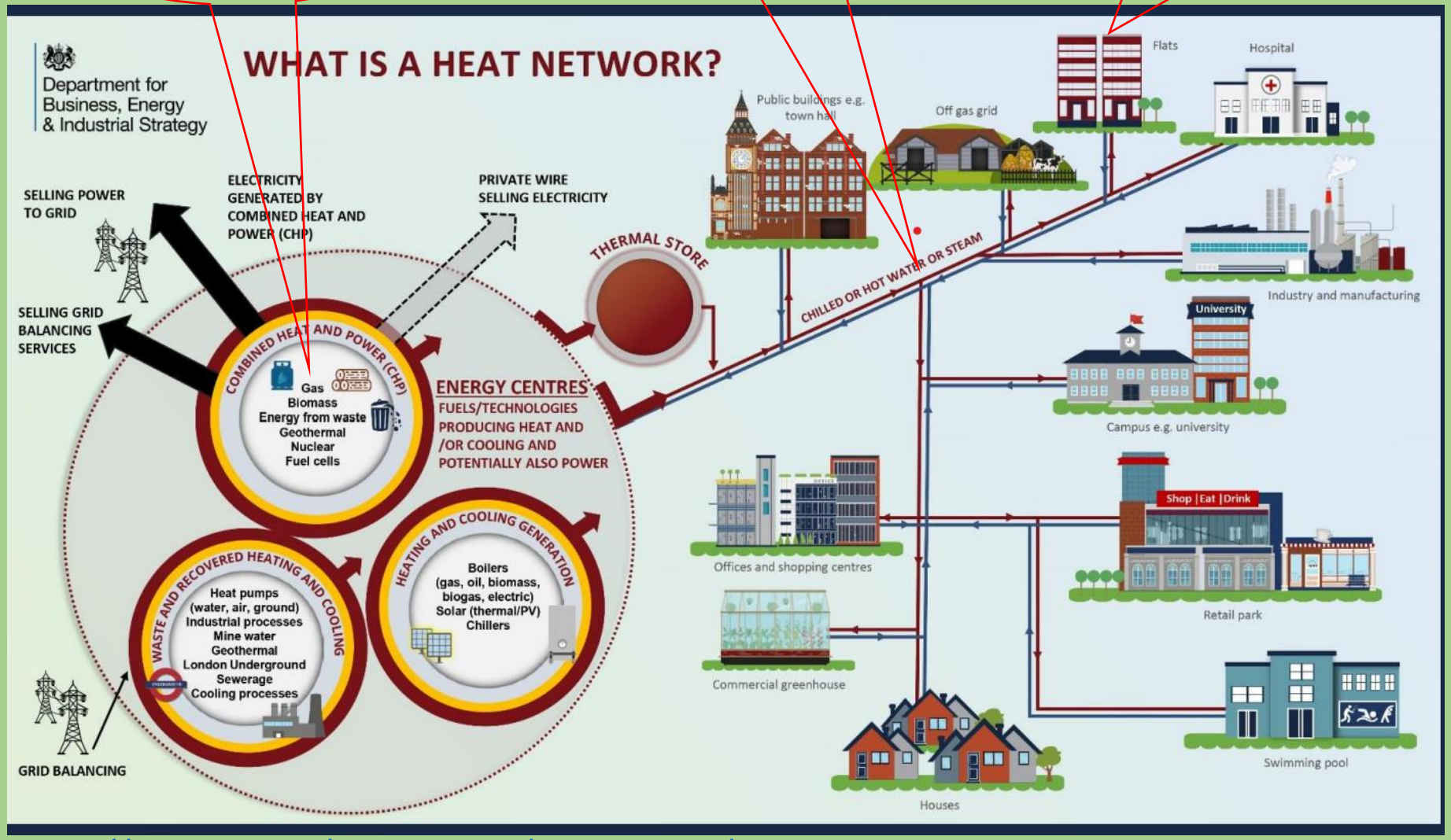


Components of a Heat Network

When the incinerator is built the gas will remain for back up

The new big pipes will cost £ms

Currently there are networks using gas for heat around some local estates



https://www.gov.uk/government/publications/what-is-a-heat-network

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4 And finally, NLWA deducts **28,000** tonnes **CO_2** for metal retrieved from the ash instead of mining new metal

Extracting metal from 'black bag' waste would retrieve higher quantities, saving more carbon

Then they say "low carbon" with just **28,000** tonnes of **CO_2** instead of the actual **700,000** tonnes

We're loading up the air with CO_2

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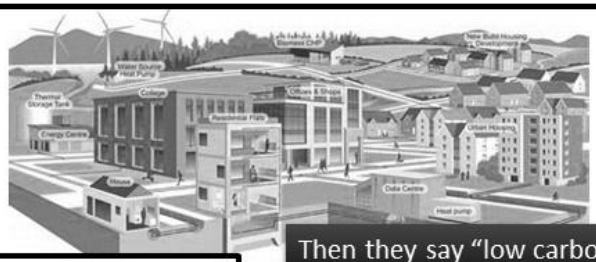
https://www.LetstalkRubbish.london



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* "The carbon origin of the NLWA waste to be received by the future Edmonton ERF is not known and ***hence some assumption must be made***". So the Ramboll report 2019 v2 (p5 3.4.1) is the basis here.

They say that "biogenic" waste (e.g. food, paper and wood) are from renewable sources of carbon, **hence zero CO_2

*** Such deductions from yearly emission calculations are included, but the high **CO_2 emissions** from construction, maintenance, refurbishment and decommissioning **are not.** Ove Arup & Partners Ltd 2020 p25

In the case of Enfield and Haringey District Heat Networks

Decision makers in Government and Local Authorities have advisors who tell them:

"We have to get rid of tonnes of waste, so it must be good to use the heat from burning it for District Heat Networks"

- That the 28,000 tonne of carbon is correct, based on IPCC advice
- That the alternative would be methane producing landfill
- That the alternative to district heat would be traditional gas boilers
- That heat pumps require electricity that is fossil fuel and carbon intensive and that the UK will not increase low carbon generation
- That the waste legislation in the Environment Bill will not be enacted – so waste feedstock will not reduce
- That the Government will pay for carbon capture and storage for North London incineration

Decision makers in Government and Local Authorities could consider:

- Will the heat for new builds and updating gas District Heat Networks be lowest carbon?
- Will it be at lowest cost to tax payers and council tax payers?
- Will it include cooling for these homes as heat waves become more dangerous?
- Will the heat and cooling be lowest cost to residents?
- Will the promised legislation that will reduce waste volumes create risks to heat supply, or require continuous gas back up?
- Will the solution depend on tax payers paying for a heat network and carbon capture and storage, rather than new renewable electricity?

If they don't why not?

Who to believe?

North London Waste Authority comms based on:

IPCC

"Only fossil CO_2 should be included in national emissions under Energy Sector"

OR

The approach of not including [biogenic] emissions in the Energy Sector total ***should not be interpreted*** as a conclusion about the sustainability or carbon neutrality of bioenergy'

Defra

373 grams of CO_2/kWh are avoided by using incineration instead of electricity from gas. (used in NLWA papers, based on 2013 figures)

OR

"The atmosphere cannot distinguish between CO_2 released from a biogenic source versus a fossil source."

BEIS

"Nearly 28,000 homes and businesses will be shielded from costly fossil fuels as the government awards over £54 million to 4 heat network projects in England"

The work of build professionals and carbon accountants:

Chris Twinn of LETi

- Lead of London Energy Transformation Initiative's (LETI) Decision Tree for Heat
- Author of Heat Autonomy: Life after District Heating on route to zero carbon

LETI is made up of build professionals inc architects, surveyors, engineers

Dominic Hogg

- Author of A Burning Issue
- Author of Eligibility of incineration for Green Bonds

Dominic was the founder of Eunomia, a respected consultancy

London Councils – Retrofit London

"Energy from Waste is one of the highest carbon forms of electricity generation"

"new heat networks should not use fossil fuels"

Believing North London Waste Authority choices of 'facts' from IPCC, Defra, BEIS

London Energy (owned by North London Waste Authority) will sell heat to Energetik to sell to residents

Projects listed in the HNIP using Edmonton	Capex £m	Grant £	Loan £	HNIP tot	Homes	Other
Meridien Water Heat Network	34.4	5	9.76	14.76	10,000 2022 to 30,00 later	
North and west strategic extensions to Meridien Water heat network	48.65	12	11.86	23.86	3,300 + existing Ponders End and Oakwood	Enfield Civic Centre + 2 Care Homes
Tottenham Hale and Broadwater farm District Heat network	32.47	4.6	12.65	17.25	7,495	125,548sqm commercial + 2 Schools
Wood Green District Heat Network	33.89	8.03	2.56	10.59	5,054	144,533sqm Commercial space
	£149.4m	29.63	36.83	66.46	45,849	

Capital cost of building a heat network to use the heat from the Edmonton Incinerator

Who pays this capital expenditure and who pays for maintenance and service charge?

Who benefits from these heat networks using incinerated waste?

Believing the research and recommendations of professionals who understand carbon emissions and the building industry

"a step change reduction in carbon emissions"
And "carbon emissions will reduce as the grid decarbonises"

Effect on carbon emissions for new builds

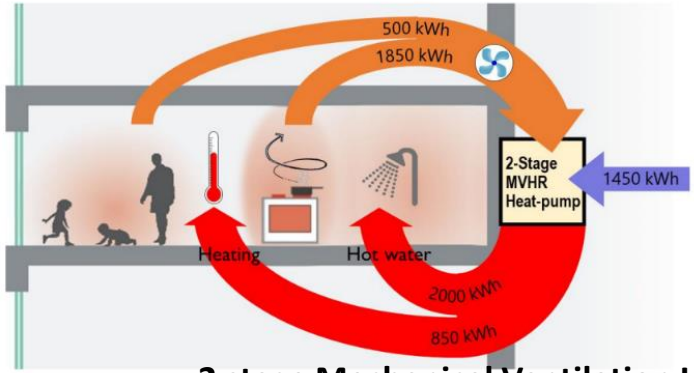

Fig. 10 2-stage MVHR unit operating in 'Heat Autonomy' mode uses dwelling exhaust ventilation heat as its heat source, which it recycling and upgrades, powered from a standard dwelling 13A electrical supply

2 stage Mechanical Ventilation Heat Recovery operating in 'Heat Autonomy'

£0 to tax payers – cost neutral to developers

"At 14.5p kWh the heating and hot water energy and servicing costs would be about **£285** for a three-bedroom apartment compared with **£377** served by a district heating system."

[you do the maths at todays prices!]

Capital cost of building highly insulated homes with 'heat autonomy'

Effect on residents bills

Greenwashing in North London - who to believe?

Using Edmonton incinerator as a key example, but also other examples welcome.

- how do decisions from Government and Councils rely on 'usual advisors' and affect the planet?
- If meaningful figures were used for greenhouse gas emissions would decision makers make different decisions?
- how does the choice of studies of air pollution affect understanding of the risks?
- how does choice of advisors affect commitments from UK and Council taxes?

Thoughts and questions in chat for final discussion

References

IPCC – accounting for incineration from waste

IPCC guidelines "Only fossil CO_2 should be included in national emissions under Energy Sector "*biogenic CO_2 should be reported as an information item*' (p. 5.8). Microsoft Word - 5.3_Waste_Incineration_20030113.doc (iges.or.jp)

More recently the IPCC has stated: 'The approach of not including [biogenic] emissions in the Energy Sector total ***should not be interpreted*** as a conclusion about the sustainability or carbon neutrality of bioenergy' (Q2-10).

*"*accounting biomass in the energy sector would disincentivise the energy use of wood residues (because the burning of biomass emits more CO2 per unit of energy than fossil fuels), despite leaving these residues in the forest means that they will gradually decompose, releasing their carbon to the atmosphere*" [Assumptions that the plants will be replaced are flawed]

Defra

uses 373 gCO_2/kWh as avoided CO_2 based on figure for electricity from gas (2014 paper used by NLWA)

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/284612/pb14130-energy-waste-201402.pdf

Ramboll report on carbon figures for the Edmonton Incinerator

"Although this carbon dioxide is directly released into the atmosphere and thus makes a real contribution to the greenhouse effect, only the climate-relevant CO2 emissions from fossil sources are considered for the purposes of a global analysis. "

Ramboll report 2019 v2 (p5 3.4.1)

Eunomia on Anaerobic digestion

anaerobic digestion emits 0.14–0.34 fewer tonnes of CO2e than would be released if that tonne were sent to EfW incineration (p. 12)

https://static1.squarespace.com/static/5f95667217eb67456f4ebd4e/t/5fb2615b16947a58fe48e822/1605525857684/XR+Zero+Waste+open+letter+and+annex+16+November+2020.pdf

References

London Councils

"Energy from Waste is one of the highest carbon forms of electricity generation"

"new heat networks should not use fossil fuels"

https://londoncouncils.gov.uk/our-key-themes/climate-change/retrofit-london-programme p56

Dominic Hogg

"heating networks should be designed 'from the outset with ultra-energy-efficient buildings with vanishingly small heat needs and with residual heat needs met by heat pumps or renewable heat sources"

https://www.dominichogg.com/s/Eligibility-of-Incineration-for-Green-Bonds-Final-Version.pdf

Chris Twinn

'Heat Autonomy' has been identified using this criteria:

a) reduced cost for installation - reflecting reduced energy use
b) reduced energy & consumer bills
c) a step-change reduction in carbon emissions
d) future proofed ready for zero carbon
e) harnesses readily available components for market acceptability

https://www.researchgate.net/publication/335927685_Heat_Autonomy_-_Life_after_District_Heating_on_route_to_zero_carbon

BEIS announcing Heat Network Infrastructure Programme

Nearly 28,000 homes and businesses will be shielded from costly fossil fuels as the government awards over £54 million to 4 heat network projects in England

https://www.gov.uk/government/news/54m-heat-network-funding-helps-households-ditch-fossil-fuels