DORSET WASTE PLAN CONSIDERATIONS
INCLUDING ALTERNATIVE SITES AND FUELSTOCK ADDITIONS

APPENDICES

Planning Services
BCP Council Civic Centre
Bourne Avenue
Bournemouth
BH2 6DY

Town and Country Planning Act 1990

Town and Country Planning (Development Management Procedure) (England) Order 2015

Mr A Hannify
Union4 Planning
30 Stamford Street
South Bank
London
SE1 9LQ

Grant of Full Planning Permission

Application reference no: **8/21/0207/FUL**

This permission does not carry any approval or consent which may be required under any enactment, by-law, order or regulation (e.g. in relation to Building Regulations or the Diversion of Footpaths etc.) other than Section 57 of the Town and Country Planning Act 1990.

The Local Planning Authority in pursuance of powers under the above-mentioned Act hereby **PERMITS:**

Proposed development comprising the installation of a low carbon Energy Recovery Facility for the generation of electricity and heat through a low-emission thermal process using residual waste; including a new administration building and associated car parking area; associated reconfiguration of existing and permitted uses; an increase in permitted waste throughput; landscaping and associated works.

at **Eco Composting Ltd Chapel Lane Christchurch BH23 6BG**

in accordance with the approved plans and subject to the following conditions:

1. The development to which this permission relates must be begun not later than the expiration of three years beginning with the date of this permission.

   Reason: This condition is required to be imposed by Section 91 of the Town and Country Planning Act 1990.

2. The development hereby permitted shall be carried out in accordance with the following approved plans:

   1416_PL100 Location Plan

12 July 2023
Cover Letter

Rob Asquith
E: rasquith@savills.com
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Wimborne BH21 1PB
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F: +44 (0) 1202 856 801
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Gareth Ball
Planning
BCP Council
Planning Services
Town Hall Annexe
St Stephens Road
Bournemouth
BH2 6EA

Dear Gareth,

DEMOLITION AND REMOVAL OF EXISTING STRUCTURES AND THE ERECTION OF A CARBON CAPTURE RETROFIT READY ENERGY FROM WASTE COMBINED HEAT AND POWER FACILITY WITH ASSOCIATED COMBINED HEAT AND POWER CONNECTION, DISTRIBUTION NETWORK CONNECTION AND TEMPORARY CONSTRUCTION COMPOUNDS.

CANFORD RESOURCE PARK, ARENA WAY, MAGNA ROAD, WIMBORNE, BH21 3BW

PLANNING PORTAL REFERENCE: PP-12051171

On behalf of MVV Environment Ltd (the Applicant), we have today submitted a planning application for the above description of development on land at Canford Resource Park via the Planning Portal.

This letter is intended to assist Bournemouth, Christchurch and Poole Council in validating the application.

The planning application consists of the following information:

- Completed planning application form
- Planning application fee (£37,250.00), payment made directly via the Planning Portal
- Planning Statement – this document includes a table indicating the location of all information required to address BCP's validation requirements
- Design & Access Statement
- Statement of Community Involvement
- Outline Employment and Skills Strategy
- Lighting Strategy

It is accompanied by an Environmental Statement covering, further to your Scoping Opinion dated 20 October 2022 the following topics:

- Air Quality
- Climate Change
- Ecology and Nature Conservation
- Geology, Hydrogeology and Ground Conditions
- Historic Environment
- Hydrology
- Landscape and Visual
- Noise and Vibration
- Population and Health

- Traffic and Transport
- Non-Technical Summary

The following plans are submitted:

- Proposed Site Plan (drawing reference 10-01)
- Vehicle Tracking (drawing reference 10-02)
- Floor Plan at FFL 44.650M AOD (drawing reference 10-03)
- Floor Plan at FFL 51.425M AOD (drawing reference 10-04)
- Floor Plan at FFL 58.200M AOD (drawing reference 10-05)
- Floor Plan at FFL 61.925M AOD (drawing reference 10-06)
- Floor Plan at FFL 67.650M AOD (drawing reference 10-07)
- Floor Plan at FFL 71.375M AOD (drawing reference 10-08)
- Roof Plan (drawing reference 10-09)
- Roof Terrace Plan and Elevations (drawing reference 10-10)
- Proposed Site Sections (drawing reference 11-01)
- Indicative Section (drawing reference 11-02)
- Northwest Elevation (drawing reference 12-01)
- Southeast Elevation (drawing reference 12-02)
- Northeast and South West Elevations (drawing reference 12-03)
- Computed Generated Visualisations (drawing reference 12-04)
- Site Location Plan (drawing reference MVV_001_Rev_0)
- Proposed Development Components (drawing reference MVV_002_Rev_1)
- DNC Compound (drawing reference MVV_003_REV_1)
- DNC General Arrangements (drawing reference MVV_004_Rev_1)
- DNC Compound Sections (drawing reference MVV_005_Rev_1)
- Temporary Workshop/Stores Building (drawing reference MVV_006_REV_0)
- Two Storey Office/Welfare Cabins (drawing reference MVV_007_REV_0)
- Boundary Fence and Gates (drawing reference MVV_008_Rev_02021)
- Gatehouse/Weighbridge (drawing reference MVV_009_Rev_0)
- Temporary Construction Compound: General Arrangements (drawing reference MVV_010_Rev_1 TCC1 and 2)

I trust that the Council has sufficient information to validate and determine this planning application.

If there are any queries, then please do not hesitate to contact me directly

Yours faithfully

Rob Asquith

Director

Publication - Independent report

Decarbonisation of residual waste infrastructure: report

Published: **3 February 2023**
Directorate: Environment and Forestry Directorate
Part of: Environment and climate change
ISBN: **9781805254942**

Second report and supporting documents from the Independent Review of the Role of Incineration in the Waste Hierarchy in Scotland (Stop, Sort, Burn, Bury?), on decarbonisation of residual waste infrastructure in Scotland.

4.6 Heat Networks

The majority of incineration plants in Scotland use the heat from combustion to create steam that then drives a turbine to generate electricity. This process is not hugely efficient, with

displacing other sources of energy, it doesn't reduce direct emissions. As the wider energy sector decarbonises, there will be less of a displacement effect. So, while heat networks can be an effective way of capturing excess heat from an incineration plant, this is not a reason to construct a new one.

Nonetheless, as heat networks have a wider role to play in decarbonisation, whatever energy source is used, their connection to incineration plants, where possible, is beneficial. Therefore, this Second Report confirms the First Report's provisional position that:

Recommendation 14: The Scottish Government and local authorities should continue to work with industry to deploy combined heat and power for as many existing incineration facilities as possible.

4.7 Carbon Capture, Use, or Storage (CCUS)

Several technologies[58] have been proposed to capture the carbon dioxide emitted from combustion processes so that it can either be used elsewhere or sent for long term storage underground. For now, the most suitable capture technology for incineration is likely to be post-combustion removal of CO_2 from the flue gases, which is expected to be carried out by carbon scrubbing with amines, as this is the only capture technology that has been used industrially[59]. Amine-based carbon capture is a regenerative process using an amine solvent to remove CO_2 from flue gas post combustion. Reversing the reaction releases pure CO_2 for capture and frees up the solvent for re-use. Amine-based post-combustion capture (PCC) is a well-proven and commercially available technology, having been used in the petroleum sector since 1996 and in the coal-fired power industry since 2014[60].

Less well-developed approaches include membrane separation and chemical looping. Increasingly, technologies that convert the carbon dioxide on site into a useful material[61] are being developed.

The capture and compression of CO_2 incurs an energy loss (parasitic load) in the form of the provision of steam and/or power. The size of this loss will depend on the efficiency of the capture process but can be as much as 20% of the energy output from the facility. This will impact on the efficiency values stated previously but will improve a plant's R1 status (see Annex B – Recovery Status (R1 value)). Typically, within an incinerator, CO_2 represents 10-12% of the flue gases; higher concentrations of CO_2 make the capture of CO_2 more efficient. The absorber tower can be made smaller, and the solvent used to capture the CO_2 in the flue gas can be used more efficiently.

CCUS technologies have the potential to capture emissions from both fossil carbon and biogenic carbon released from the incineration of residual waste. The additional work undertaken by Eunomia, following discussion with the CCC, therefore included emissions reductions due to the capture and storage of biogenic carbon emissions. This modelling

suggests that the deployment of CCUS in Scotland could have a marked impact on decarbonisation, noting that the addition of CCUS (Pathway 3) would reduce annual net GHG emissions from waste treatment by around 80% (79 – 82% depending on the scenario) compared to the modelled Pathway 1 (Advanced sorting only) in all scenarios (64-68% reduction in direct emissions). The scenarios that examined increased food waste avoidance compared to increased plastics recycling had little impact on the modelled results since CCUS was assumed to capture both biogenic and fossil carbon. In this modelling the sequestration of biogenic carbon in landfill is also included as an assumption, however, emissions from the incineration of biogenic carbon are not included in the baseline (2020) scenario. While this is in line with wider carbon accounting practices, it may be beneficial to consider whether reporting biogenic carbon in all aspects of future modelling for the waste sector could be beneficial (see Section 3.2.1 and Recommendation 15).

4.7.1 Development of CCUS

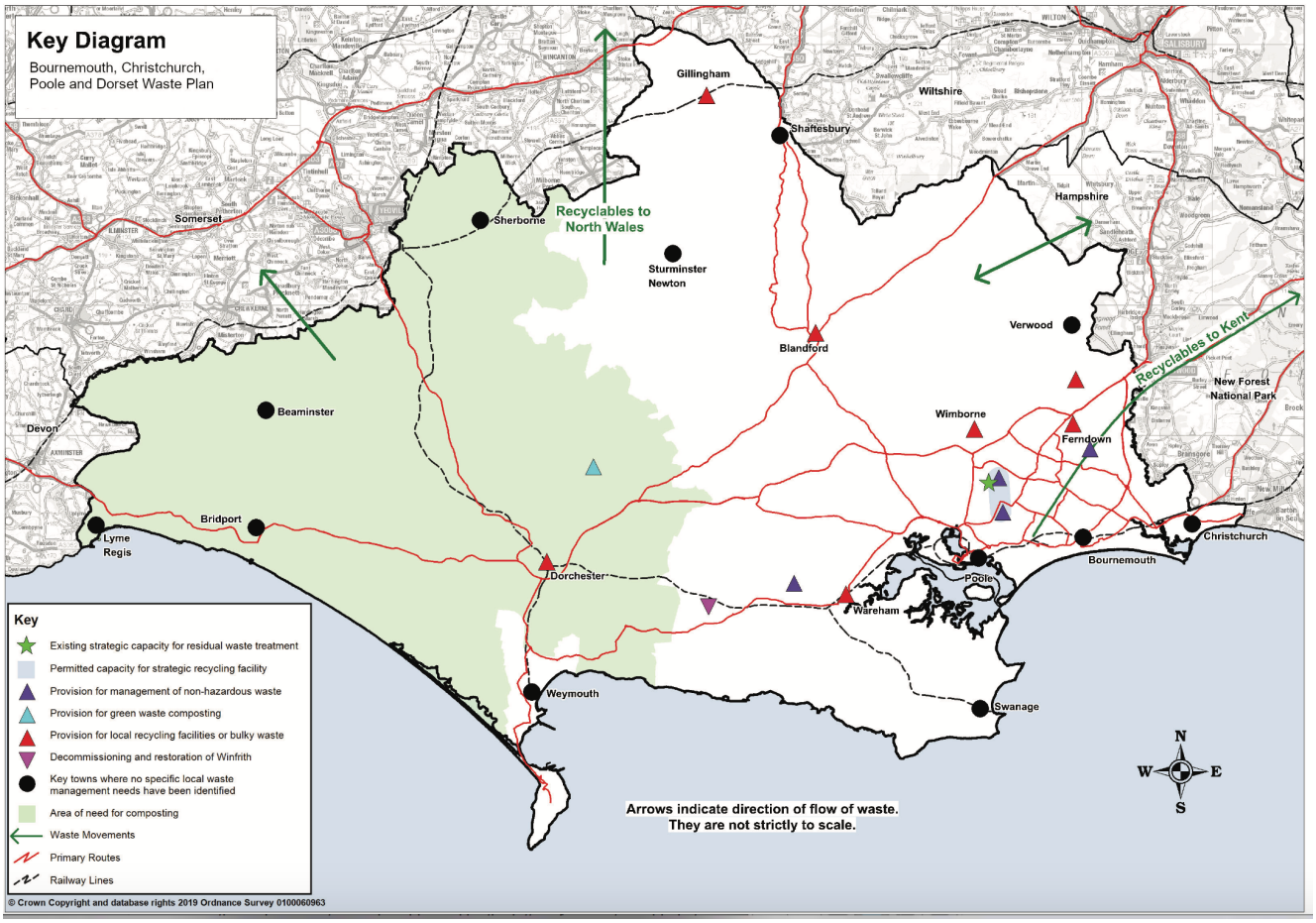
The modelling undertaken by Eunomia is intentionally optimistic about the potential for Scotland to deploy CCUS, presenting what could be considered a best case scenario. CCUS was not modelled on its own without other options (Advanced Sorting or Heat Networks) as it is currently the least feasible option and there are a number of potential barriers to deployment of CCUS.

The development of CCUS is anticipated to occur in a phased manner, led by the location of incineration facilities (and wider industry) which strongly influence technical and economic viability. There is recognition that large CO_2 emitters close to each other and to a transport and storage solution will likely form into a CCUS ‘cluster’. Incineration facilities are suitable candidates to join such clusters and are already aligning themselves with such projects.

Proposals for a CCUS cluster in Scotland are led by the Acorn Project[62], a consortium of companies backed by the UK & Scottish Governments and the EU. This proposes to use existing and new pipelines, ships and other containers to move CO_2 emissions from projects in Scotland, across the UK and internationally to permanent storage 2.5km (1.5miles) under the North Sea.

Those plants most likely to overcome the barriers, and therefore be able to deploy CCS first are anticipated to be those along the east side of Scotland initially and within 30km of an identified cluster or pipeline. Following this, it is anticipated that facilities that are within 30km of potentially suitable port facilities to be developed next (second phase). This is on the basis that given existing infrastructure, these ports would likely represent the most likely future 'hubs' through which captured carbon would be transported (via ship) to cluster locations.

Transport solutions for the remaining incinerators away from the cluster and port locations are likely to be expensive due to their remote locations. If current CCUS technologies are


Key Diagram
Bournemouth, Christchurch, Poole and Dorset Waste Plan
Gillingham
Wiltshire
Shaftesbury
Hampshire
Somerset
Sherborne
Recyclables to North Wales
Sturminster Newton
Blandford
Verwood
Recyclables to Kent
New Forest National Park
Devon
Beaminster
Wimborne
Ferndown
Bridport
Lyme Regis
Christchurch
Bournemouth
Poole
Dorchester
Wareham
Weymouth
Swanage
Arrows indicate direction of flow of waste. They are not strictly to scale.
N
W
E
S
Key
Existing strategic capacity for residual waste treatment
Permitted capacity for strategic recycling facility
Provision for management of non-hazardous waste
Provision for green waste composting
Provision for local recycling facilities or bulky waste
Decommissioning and restoration of Winfrith
Key towns where no specific local waste management needs have been identified
Area of need for composting
Waste Movements
Primary Routes
Railway Lines
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FICHTNER
Consulting Engineers Limited

Powerfuel Portland Limited

Portland ERF

EP Clarification

The Environment Agency (EA) has issued a request for further clarification in relation to the EP application for the Portland ERF (the Facility) in relation to:

1. The Operator; and
2. IBA Storage/Handling.

This note is intended to address the request from the EA. For clarity, the questions from the EA are included in **bold**.

1 Operator

Confirm the operational arrangements for the proposed installation. How will Powerfuel Portland Limited meet the requirements of the legal operator?

Powerfuel Portland Ltd (Powerfuel) is a private company which has been set up for the development, management and operation of the Facility.

Powerfuel acknowledges that 'The Operator', as defined in the Regulation 7 of the Environmental Permitting Regulations, is 'the person who has control over the operation of a regulated facility'. Furthermore, in accordance with DEFRA and Environment Agency (EA) Guidance titled 'Guidance: Legal operator and competence requirements: environmental permits' (referred to as the Operator Guidance), the Operator must:

- have day-to-day control of the facility or activity, including the manner and rate of operation;
- make sure that permit conditions are complied with;
- decide who holds important staff positions and have incompetent staff removed, if required;
- make investment and financial decisions that affect the facility's performance or how the activity is carried out; and
- make sure its activities are controlled in an emergency.

In addition, the EA Guidance titled '*Legal operator and competence requirements: environmental permits*' also states:

> '*If contractors work at your site, you can still be classed as the legal operator if you have sufficient control of the activities carried out by your contractors.*'

It is acknowledged by the project team that it has advised stakeholders that it will subcontract the day-to-day operation of the Facility to a third-party organisation through an operation and maintenance (O&M) contract. However, Powerfuel will ensure that, through the terms and conditions of the O&M contract, it retains control of the Facility, that the Facility is operated in accordance with the instructions of Powerfuel and that all of the requirements of the Operator Guidance are complied with, including making investments and financial decisions which will influence the performance of the Facility.

For clarify, the O&M Contractor would not be able to be listed as the Operator on the EP. Whilst it would be able to fulfil most of the responsibilities of an Operator, it would not be in a position to '*make investment and financial decisions that affect the facility's performance or how the activity is carried out*'. As the owner of the Facility, Powerfuel is able to make investment decisions.

Taking the above into consideration, Powerfuel considers that it will be the 'legal operator' of the Facility, and is in accordance with EA Guidance.

2 IBA Storage/Handling

Confirm the proposed arrangements for the storage, handling and removal of incinerator bottom ash (IBA) from the installation. Including clarification of the proposals for using a barge (or similar vessel) to transport the IBA (including loading operations).

As set out in section 1.4.5 of the Supporting Information:

> *The quenched ash will be transferred to a dedicated IBA storage area. There will be regular collections of IBA from the IBA storage area for transfer off-site to a suitably licensed waste facility.*

Furthermore, as set out in section 2.9.2 of the Supporting Information:

> *Powerfuel intend to transfer IBA from the waste incineration plant to an off-site IBA processing facility for recovery/recycling.*

To further clarify the arrangements, the bottom ash is loaded onto road vehicles within an enclosed ash handling/storage area for transport off-site. There are no proposals to undertake the treatment of IBA within the Facility.

The planning application for the Facility indicates that IBA will either be:

1. transferred out of Portland Port and off the island of Portland, via road; or
2. transferred onto barges within Portland Port for onward transfer.

The planning application has considered both of these options, with the transfer via road being considered as the most conservative case for transport assessment purposes.

Powerfuel has progressed extensive discussions regarding the treatment and processing of IBA with a specialist processor of IBA which has operational facilities in the UK (Day Group). Day Group has indicated that the transfer of IBA via barge to its specialist facility at Greenwich (on the River Thames) or to Bristol (on the Avonmouth Dockside) would be preferable from a transport sustainability and carbon perspective, and that transfer via road to its facility in Bristol would also be acceptable.

Furthermore, Powerfuel's understanding is that Portland Port is able to transfer IBA to vessels at the Port should a transfer by barge be able to be agreed commercially between the relevant parties and the relevant permits are able to be secured for the transfer operations.

Currently, Powerfuel is not aware that there are any commercial agreements between Day Group (or any other specialist IBA processors) and Portland Port and the EA has not granted an EP for a waste transfer facility within the Port. Therefore, this is not considered to be an available option at this stage, but Powerfuel will continue to review this with the Port and any potential IBA processors.

We trust that the information contained in this note is sufficient to enable the EA to progress with the EP determination process.

Yours sincerely

FICHTNER Consulting Engineers Limited

[redacted]

[redacted]

[redacted]
Lead Consultant

[redacted]
Technical Director

HOME: INVESTIGATION

Revealed: 'Greenwashing' cruise ships burning diesel despite energy pledge

Exclusive: Cruises 'pour poison into the air' by failing to plug into low-carbon electricity while in UK ports

Ben Webster Lucas Amin

4 November 2023, 12.00pm

Many cruise ships are choosing to burn fossil fuels while in port in Southampton instead of plugging into low-carbon electricity | Ben Marans/SOPA Images/LightRocket via Getty Images

The cruise industry has been accused of misleading tourists with false claims that ships use green energy with "zero emissions" while in port in the UK.

Cruise companies claim the giant vessels – which some experts believe are worse for the climate than flying – are reducing emissions by switching off their engines and plugging into low-carbon electricity while moored.

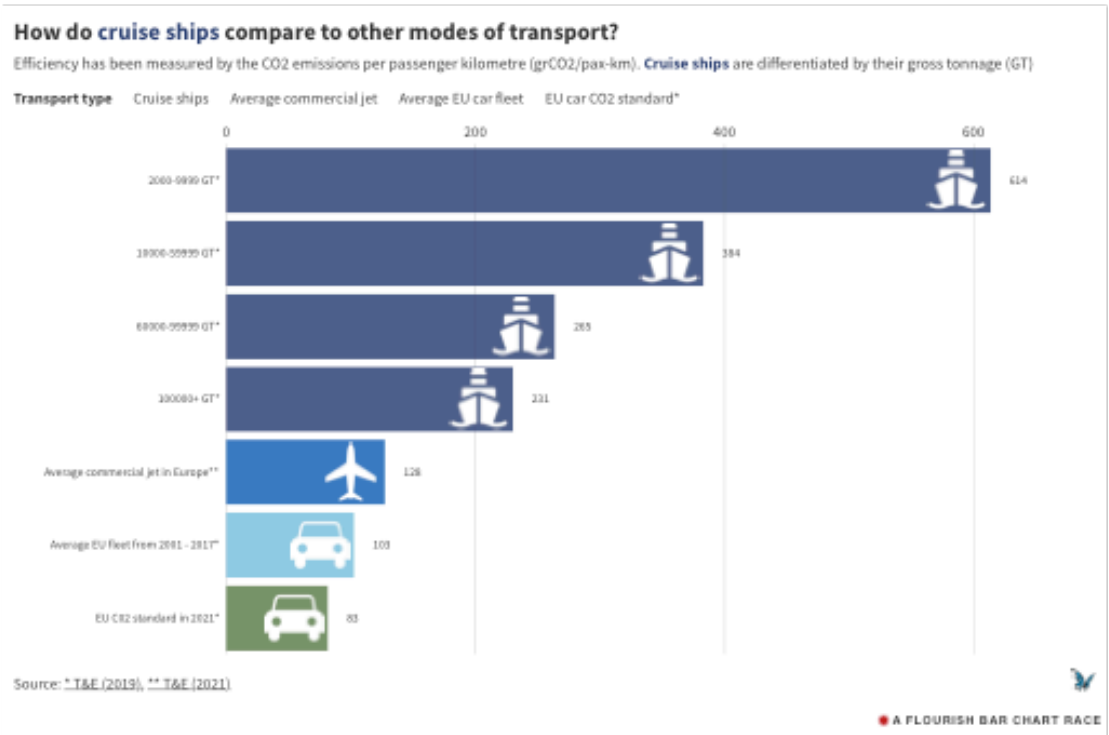
But an investigation by openDemocracy has found that cruise ships regularly fail to use the 'shore power' available in port, and instead burn diesel, which is cheaper but has a huge carbon footprint.

Data from the UK's biggest cruise port in Southampton shows that only around one in ten cruise ships has plugged into shore power since it became available at the port last year.

The data also suggests that the few ships that did use the energy plugged in for only about five hours per visit on average, despite typically spending 12 hours in port.

Cruise ships' failure to use the shore power appears to be worsening air pollution in Southampton. Just 45 ships visiting the port produced almost ten times more harmful pollutants than the city's 93,000 cars combined, according to a study published by the Transport & Environment (T&E) think tank in June.

T&E also found that cruise ships emit two to five times more CO_2 per passenger kilometre than the average commercial aeroplane in Europe.



Shore power, which is available at 32 cruise ports across the world, can "reduce emissions by up to 98%, depending on the mix of energy sources, while a ship is in port", according to Cruise Lines International Association

But companies are choosing not to use it, in part because it costs more than tax-free marine diesel, according to the UK Chamber of Shipping, the industry trade association.

Jon Hood, sustainable shipping manager at T&E, said: "It's hard to believe in 2023 that cruise ships are still allowed to sit in our busy port towns pouring poison into the air that people breathe.

He continued: "[It's] harder still to believe they're allowed to do this even when there's clean power available right there, but the cruise companies don't want to pay for it for the sake of their profits."

'Plume of smoke'

openDemocracy's investigation comes as the cruise industry is expanding, with more than 70 new ships – many of which can accommodate up to 7,000 passengers and staff – on order globally. Some 1.7 million people in the UK and Ireland holidayed on a cruise ship last year.

In 2021, the chief executives of six of the world's biggest cruise lines signed a letter committing to support the development of shore power, which they said was needed "to combat climate change".

Carnival, the world's largest cruise company, lists "shore power connection" as a key "environmental feature" of its vessels

in its 2022 sustainability report.

But the industry is frequently failing to use shore power when it is available. Southampton port's owner, Associated British Ports (ABP) announced that shore power was ready for use at two its five terminals where cruise ships can dock in April 2022, saying ships could plug in to achieve "zero emissions at berth".

Between then and the end of July 2023, there were more than 300 days when at least one cruise ship was berthed at Southampton, according to openDemocracy's analysis of ABP's schedule.

This suggests shore power could have been used 300 times over that period – even with local grid constraints that mean only one ship can use shore power at any one time.

But in August, ABP told openDemocracy that shore power had been used on just 71 "occasions" since April 2022, though it refused to say exactly when these occasions were.

> **One only has to look at the plume of smoke from the cruise liners to see the pollution being discharged over our city**
>
> **Katherine Barbour, Southampton councillor**

The failure to use shore power can partly be explained by cruise lines delaying the necessary investment to upgrade their ships to be compatible with the energy source.

Only 46% of cruise ships globally can connect to shore power, according to CLIA – despite the first shore power port connection for cruise ships being installed more than 20 years ago. CLIA says 72% of ships will be able to do so by 2028.

Carnival admitted that the Iona, Ventura and Queen Victoria, which visited Southampton 80 times between May 2022 and February 2023, were not capable of taking shore power in that period.

Yet even cruise ships that can use the electricity regularly fail to do so in Southampton.

The cruise company AIDA, which is owned by Carnival, said in 2021 that the use of shore power "is a decisive step for AIDA cruises to reduce local emissions to zero during berthing over time, as a cruise ship typically stays in port around 40% of its operating time".

AIDA has also claimed to be "campaigning for the development" of shore power infrastructure at other ports.

But the company's flagship vessel, the AIDAprima, did not connect to shore power in Southampton on 80% of its visits, despite being able to do so, according to ABP data from May 2022 to February 2023 obtained by openDemocracy.

Katherine Barbour, who became Southampton's first Green councillor in May, said: "One only has to look at the plume of smoke coming up from the cruise liners to see the pollution that is being discharged over our city."

A spokesperson for Carnival said: "Our ships leverage shore power whenever possible where available at our

destinations."

'Greenwashing'

Southampton port owner ABP successfully applied in 2020 for a £4.4m public subsidy to install shore power.

In its business case for the grant – which was awarded via the Solent Local Enterprise Partnership (LEP), a voluntary partnership between the local authority and businesses to encourage economic growth in the area – ABP stated that cruise ships were at berth for an average of 12 hours and could plug in for "96% of time in port".

But figures published in Solent LEP's annual report suggest that the 55 ships that used shore power in Southampton in the 12 months to the end of March 2023 did so for an average of only five and a half hours, spending the remaining six hours in port burning fossil fuel to generate power. A cruise ship consumes an average of 2,700 litres of diesel an hour in port.

The report stated that the 55 ships used shore power to draw a total of 1.5 million kilowatt hours of electricity. One large cruise ship is likely to use at least this amount of energy in less than two weeks.

> **It's hard to believe cruise ships are allowed to pour poison into the air even when there's clean power available right there**

Peter Aylott, the director of policy at the UK Chamber of Shipping, told openDemocracy: "The current price of electricity is so high that no cruise company is going to use it unless they had to by a mandatory requirement."

A spokesman for the chamber later clarified Aylott's comment, saying that the high price of electricity was one reason why cruise ships do not always plug in at Southampton when shore power is available.

The UK is lagging behind the EU in forcing the cruise industry to reduce its emissions via shore power. Cruise ships visiting EU ports will be required to connect to shore power from 2030 under the FuelEU Maritime Regulation. By contrast, the UK government is still considering "options" for expanding shore power use, including "exploring the potential" of requiring vessels to use it when in port.

Jon Hood of T&E said cruise companies that "trumpet their use of shore power in an effort to seem green" but fail to actually use it are guilty of greenwashing.

"The government must require cruise ships to plug into shore power when it's available," Hood added. "As a first step, cruise companies should have to publish when their vessels take shore power, and for how long."

Southampton councillor Katherine Barbour said: "If cruise liners are not mandated to change this will continue and our residents will suffer. We need all berths to be able to provide shore power and ships need to be adapted to use it.

"At the moment every ship is like a small town, spewing out pollution when they are not using electricity."

Cruise companies have separately been accused of misleading the public with their claims that ships are becoming more environmentally friendly because they can burn liquified natural gas (LNG) instead of diesel.

Environmental group Opportunity Green said research showed that leaks of unburned methane could cancel out the claimed climate benefits of LNG.

A spokesperson for MSC Cruises, whose ships regularly visit Southampton, said it "intends for all ships belonging to MSC Cruises to fully utilise shore power facilities at all other ports they visit once available". They added that "there exists a variety of reasons for not utilising shore power" but said cost was not one of those reasons.

A spokesperson for ABP said: "ABP Southampton always seeks to maximise the use of its shore power facility subject to asset availability constraints, including grid capacity outside the port, and in response to customer demand.

"The numbers presented to us by [openDemocracy] seem to be taken out of context and to contain important flaws."

The numbers were either supplied directly by ABP or based on analysis of ABP data.

Asked how many times a cruise ship had failed to plug in at Southampton when shore power was available, the spokesperson said: "We don't collect the data."

The Solent LEP report said shore power had saved 1.7 million kilograms of CO2 in a year. That is only a fifth of the annual savings predicted by ABP in its business case submitted to the LEP to obtain the £4.4m grant. ABP said: "Implementation always takes a while to work up as both users and providers become familiar with use in practice."

Read more

The Waste (England and Wales) Regulations 2011

Status: This is the original version (as it was originally made).

Principles of self-sufficiency and proximity

4.—(1) To establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste collected from private households, including, where such collection also covers such waste from other producers, taking into account best available techniques.

(2) The network must be designed to enable the European Union as a whole to become self-sufficient in waste disposal and in the recovery of mixed municipal waste collected from private households, and to enable the United Kingdom to move towards that aim taking into account geographical circumstances or the need for specialised installations for certain types of waste.

(3) The network must enable waste to be disposed of and mixed municipal waste collected from private households to be recovered in one of the nearest appropriate installations, by means of the most appropriate technologies, in order to ensure a high level of protection for the environment and human health.

(4) This paragraph does not require that the full range of final recovery facilities be located in England or in Wales or in England and Wales together.

TOLVIK CONSULTING

UK Energy from Waste Statistics - 2022

Operational EfWs *(i.e. those providing an APR for 2022)*

(P) denotes Public Sector

	Permitted Name	Known As	Location	2022 Operator	Permit Capacity (ktpa)	Processed (ktpa) 2021	Processed (ktpa) 2022
1	Runcorn EfW Facility	Runcorn	Halton	Viridor	1,100	957	930
2	Riverside Resource Recovery Facility	Riverside	Bexley	Cory	850	782	789
3	Tees Valley - EfW Facility	Tees Valley	Stockton-on-Tees	Suez	756	675	675
4	Ferrybridge Multifuel 1	Ferrybridge FM1	Wakefield	enfinium	725	656	621
47	Ferrybridge Multifuel 2	Ferrybridge FM2	Wakefield	enfinium	725	669	633
51	Kemsley Park EfW	Kemsley	Kent	enfinium	657	527	542
5	Edmonton EcoPark	Edmonton	Enfield	LondonEnergy (P)	620	516	489
55	Rookery South ERF	Rookery South	C Bedfordshire	Encyclis	585	170	477
6	Allington Waste Management Facility	Allington	Kent	FCC	560	472	464
9	Wilton 11 EfW	Wilton 11	Middlesborough	Suez	500	459	356
8	Lakeside EfW	Lakeside	Slough	Lakeside	468	382	425
12	Severnside Energy Recovery Centre	Severnside	S Gloucestershire	Suez	467	402	383
7	SELCHP ERF	SELCHP	Lewisham	Veolia	464	434	428
11	Tyseley ERF	Tyseley	Birmingham	Veolia	441	375	376
10	Cardiff Energy Recovery Facility	Trident Park	Cardiff	Viridor	425	378	360
54	Severn Road RRC	Avonmouth	Bristol	Viridor	377	285	364
45	Beddington Energy Recovery Facility	Beddington Lane	Croydon	Viridor	347	320	334
13	Greatmoor EfW	Greatmoor	Buckinghamshire	FCC	345	303	297
14	Staffordshire ERF	Four Ashes	Staffordshire	Veolia	340	339	340
15	Ardley EfW Facility	Ardley	Oxfordshire	Viridor	326	334	309
43	Dunbar Energy Recovery Facility	Dunbar	East Lothian	Viridor	325	307	314
41	Allerton Waste Recovery Park	Allerton Park	North Yorkshire	Thalia	320	287	284
16	CSWDC Waste to Energy Plant	Coventry	Coventry	CSWDC (P)	315	295	298
58	Hull Energy Works	Energy Works ACT	Hull	BIG	315	35	52
17	SUEZ Suffolk - EfW Facility	Great Blakenham	Suffolk	Suez	295	292	283
18	Devonport EfW CHP Facility	Devonport	Plymouth	MVV	265	243	260
20	Sheffield ERF	Sheffield	Sheffield	Veolia	245	228	224
21	Newhaven ERF	Newhaven	East Sussex	Veolia	242	229	229
19	Cornwall Energy Recovery Centre	Cornwall	Cornwall	Suez	240	242	240
25	EnviRecover EfW Facility	Hartlebury	Worcestershire	Severn	230	216	213
22	Integra South West ERF	Marchwood	Southampton	Veolia	220	210	200
23	Integra South East ERF	Portsmouth	Portsmouth	Veolia	220	200	206
24	Stoke EfW Facility	Hanford	Stoke-on-Trent	MESE/Cobalt	210	185	194
26	Eastcroft EfW Facility	Eastcroft	Nottingham	FCC	200	186	182
48	Parc Adfer ERF	Parc Adfer	Deeside	enfinium	200	192	198
28	Lincolnshire EfW Facility	North Hykeham	Lincolnshire	FCC	190	171	172
46	Millerhill Recycling and ERC	Millerhill	Edinburgh	FCC	190	161	157
49	Javelin Park ERF	Javelin Park	Gloucestershire	Urbaser	190	191	189
27	Leeds Recycling and ERF	Leeds	Leeds	Veolia	190	181	187
31	Baldovie Waste To Energy Plant	Baldovie	Dundee	MVV	175	161	182
44	Glasgow RREC	Glasgow ACT	Glasgow	Viridor	154	99	132
29	Kirklees EfW Facility	Kirklees	Huddersfield	Suez	150	134	120
52	Full Circle Generation EfW	Belfast ACT	Belfast	FCG	144	49	99
56	Baddesley EfW	Baddesley	Warwickshire	Kantor	130	71	74
32	Wolverhampton EfW Facility	Wolverhampton	Wolverhampton	MESE/Cobalt	118	112	110
33	Integra North ERF	Chineham	Hampshire	Veolia	110	105	97
30	Bolton ERF	Bolton	Gtr Manchester	Suez	107	42	65
34	Dudley EfW Facility	Dudley	Dudley	MESE/Urbaser	105	97	93
35	Battlefield EfW Facility	Battlefield	Shropshire	Veolia	102	99	94
53	Levenseat Renewable Energy	Levenseat ACT	West Lothian	Levenseat	97	50	55
42	Milton Keynes Waste Recovery Park	Milton Keynes ACT	Milton Keynes	Amey	94	56	56
36	Peterborough EfW Facility	Peterborough	Peterborough	Viridor	85	81	91
37	Enviropower Ltd, Lancing	Lancing	West Sussex	Enviropower	75	67	53
38	Exeter ERF	Exeter	Devon	Paprec/Viridor	60	60	60
39	Integrated Waste Management Facility	NewLincs	NE Lincolnshire	Paprec	56	51	51
57	Charlton Lane Eco Park	Eco Park ACT	Surrey	Suez	55	0	27
40	Energy Recovery Plant	Gremista	Shetland Islands	SHEAP (P)	26	19	23
	Other EfWs					100	167
			Totals		**17,522**	**14,941**	**15,323**

FROM POLITICO PRO

THE RECYCLING MYTH

Denmark's 'devilish' waste dilemma

Its state-of-the-art trash incinerators are sending its climate ambitions up in smoke.

A waste-to-energy power plant operates in Copenhagen, one of many in Denmark | Image via iStock

BY ELINE SCHAART

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This article is part of a special report, The Recycling Myth.

HOLSTEBRO, Denmark — Denmark has a garbage addiction.

The country depends on burning vast quantities of garbage to generate power, using highly efficient incinerators that scrub the worst of the pollutants from flue gases. The trouble is that it doesn't generate enough trash to power its plants.

Denmark is Europe's top waste burner. Incineration accounts for about a fifth of district heating and about 5 percent of its electricity.

But what just a few years ago seemed like a clever way to deal with garbage has now become a problem.

One issue is that the incinerators burn much more waste than increasingly tidy Danes throw away. Denmark has 23 incinerators capable of burning 3.8 million tons of waste a year. But the country needs to source more and more trash from abroad. It imported nearly 1

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> "Today, we import waste with a high content of plastic in order to [use the excess] capacity at the incineration plants, with increasing CO2 emission as a result" – *Dan Jørgensen, Denmark's climate minister*

million tons in 2018, mainly from the U.K. and Germany.

That doesn't square with Copenhagen's climate goals; Denmark wants to cut its greenhouse gas emissions to 70 percent below 1990 levels in the next decade under a climate law adopted last year.

"Today, we import waste with a high content of plastic in order to [use the excess] capacity at the incineration plants, with increasing CO2 emission as a result," said Dan Jørgensen, Denmark's climate minister.

As a result, Denmark intends to reduce its incineration capacity by 30 percent over the next decade under a June agreement to restructure the country's waste management. To cut overcapacity, it will need to close seven incinerators. The deal also includes plans to introduce a recycling system with 10 different streams of waste (glass, paper, textiles, etc.) and to slash the amount of garbage it imports.

"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," said Jens Peter Mortensen, a waste expert at the Danish Society for Nature Conservation.

Put out the fire

A retreat from burning trash carries some big costs. Many of the plants were financed by loan guarantees and are owned by local municipalities.

"The government is well on its way to breaking down the municipal waste sector, which for the last decade has ensured constantly increasing waste sorting and recycling of Danes' waste," said Mads Jakobsen, the chairman of the Danish Waste Association.

"Look at our history — it's better to have energy recovery than digging holes," he said. "If we want to close incinerators, we also have to be willing to completely change our lifestyle and the way we design products."

Claus Bøgeskov Mogensen, the technical director of the Maabjerg energy center in Holstebro, called it a "devilish dilemma."

The issues can be clearly seen on Bornholm, a Danish island in the Baltic Sea. It has the country's smallest incineration plant, which the island aims to shut in 2032, the same year it wants to become trash-free by reusing or recycling all of its trash.

The long-term plan for Bornholm is for it to get its electricity and heating from offshore wind power | Soeren Bidstrup/AFP via Getty Images

In the short term, the island's district heating will be covered by burning biomass, but the long-term plan is for the island to get its electricity and heating from offshore wind power.

The Danish dilemma offers a lesson to other countries looking to incineration as a way to deal with waste.

Incineration, especially when used to produce heat or electricity, is often seen as an improvement over dumping waste into landfills — where it emits methane and can leach toxic chemicals — or shipping it to developing countries where there's little oversight of what happens to it.

But that system is harder to justify when recycling has become a more mainstream option to remove much of the waste stream that would normally be burned, and countries are focusing on slashing their greenhouse gas emissions.

"There is no reason to settle for a technology when what you have is already better," referring to recycling, said Jens Hjul-Nielsen, the director of Bornholm's waste company. "So if you don't have incineration plants today, you should start with recycling."