

dealing with  
**waste today**  
for a **better**  
**tomorrow**

Statutory Consultation Issue 1 June 2021



# who are MVV Environment?

## dealing with waste today for a better tomorrow

**MVV Environment** is part of the **MVV Energie group** of companies. We provide a **sustainable alternative to landfill** through **energy recovery** for publicly and privately-owned waste disposal companies.

The UK requires more renewable energy power stations as old, fossil fuel facilities are being decommissioned. Too much waste is still being sent to landfill or exported overseas, when it could better be used as a fuel to generate electricity and heat here in the UK.

The UK business retains the overall group ethos of 'belonging' to the communities we serve, whilst benefiting from over **50 years' experience** gained by our German sister companies. We provide solutions for **waste reduction, energy generation and recycling**.

Currently, some of the residual waste from the east of England region is exported to continental Europe where it is used as fuel in **Energy from Waste (EfW)** facilities.

MVV look to bring their expertise to the area and create a new business for Wisbech to avoid transporting the waste overseas and to generate renewable energy for local businesses.



In the UK,  
**MVV** currently  
 consists of  
**6** separate  
 companies:



**1** **MVV Environment Baldovie**

Diverting **220,000** tonnes per annum of residual waste from landfill for Dundee City and Angus councils

**2** **MVV Environment Services**

The UK electricity and waste trading subsidiary of MVV



**3** **MVV Environment**

The UK development company and core business support functions



**4** **MVV Environment Ridham**

Generating energy from **195,000** tonnes per annum of waste wood that would otherwise be landfilled or exported for energy generation abroad



**5** **MVV Environment Devonport**

Diverting **200,000** tonnes per annum of residual waste from landfill for the South West Devon Waste Partnership as well as **65,000** tonnes per annum of residual waste for private waste disposal companies

**6** **Medworth CHP Ltd**

A subsidiary of MVV Environment, established to deliver the Medworth project. It is this company that will submit the application to the Secretary of State for a Development Consent Order.



Find out more about MVV by visiting our website

# what is energy from waste?

**Energy from Waste (or EfW)** is the generation of partly renewable electricity and/or usable heat from residual waste that would otherwise go to landfill in the UK, or be exported to other countries as 'Refuse Derived Fuel.'

Like any power plant, the heat from the burning waste is used to boil water and generate steam which turns a turbine to drive a generator. Efficiencies can be increased if some of the steam can be used for heating or industrial processes such as cooking food.

## how does it work?



EfW facilities safely and effectively convert residual waste into clean, renewable baseload energy and useful by-products, while sustainably powering communities and protecting the environment.

### Combustion

Waste burns safely at very high temperatures.

### High pressure steam

Heat from the waste fire heats water in the boiler and creates high pressure steam.

### Electricity and heat production

Superheated steam turns a turbine to generate electricity and some steam can be extracted for heating.

### Metals and ash recovery

Ash and metal are recovered from the process to be recycled.

### Air quality control

Hot gases from the boiler are treated and filtered to meet strict air quality standards.

## why EfW over landfill?

In the UK now, there is over 15 million\* tonnes of residual waste per year that is still going to landfill or being shipped abroad for disposal. This is not sustainable and we should be treating this waste as a resource.

As an alternative to landfill, thermal treatment and efficient recovery of energy offers a number of advantages including environmental and financial benefits.

Landfill sites produce methane, which is 25 times worse than CO<sub>2</sub> as a greenhouse gas and exporting waste requires it to be shredded, baled and transported far greater distances than treating it locally. Shredding, baling and transport all carry an additional carbon footprint, which can be avoided with a local solution.

\*Tolvik Consulting, February 2019

## EfW does not compete with recycling

It is worth noting that MVV do not target municipal recyclable waste and as such our facilities have no direct impact on municipal recycling rates in the country. EfW competes with landfill, not recycling.

MVV supports the transition towards a circular economy. We acknowledge that within a circular economy there will still be materials that have reached the 'end of life' point and are only suitable for energy recovery.

OVER 15 MILLION\* TONNES OF **RESIDUAL WASTE** PER YEAR IS STILL GOING TO LANDFILL OR BEING **TRANSPORTED OVERSEAS**



**EfW REDUCES WASTE** GOING INTO LANDFILL

COMPARED TO LANDFILL EfW REDUCES THE **CARBON FOOTPRINT** WHILST GENERATING RENEWABLE ENERGY



\*Tolvik Consulting, February 2019

**EfW reduces landfill** and contributes to **renewable energy generation**, reducing the UK's reliance on fossil fuels and cutting methane (CH<sub>4</sub>) emissions

DECOMPOSITION of organic materials in **LANDFILLS** accounts for around **30%** of the UK's emissions of **METHANE**

\*University of Southampton, Dr Tristan Rees-White

**NON-RENEWABLE SOURCES** ACCOUNT FOR **MORE THAN 60%** of the UK's electricity

\*UK Government - UK electricity generation trade and consumption, July to September 2019

**EfW** reduces **landfill** and the UK's reliance on **fossil fuels**

# energy from waste process

EfW is a way to recover valuable resources and a vital part of a sustainable waste management chain. This diagram takes you step-by-step through the EfW process.



**1 Tipping hall**

Waste is delivered to the facility in lorries. They enter the enclosed tipping hall and reverse up to the bunker edge. Air is sucked through the tipping hall and bunker and into the furnace so that odours do not escape.



**2 Waste bunker**

The waste is stored in the bunker waiting to be loaded into the furnace by crane. Around 10 days worth of waste can be stored here. Air is sucked through the tipping hall and bunker and used in the furnace so that odours do not escape.



**3 Furnace**

The waste is burnt under very carefully controlled conditions to ensure safe and complete combustion, and maximise the amount of heat recovered as useful energy. The walls of the furnace are made up of pipes within which water is heated and turned into steam in the boiler drum.



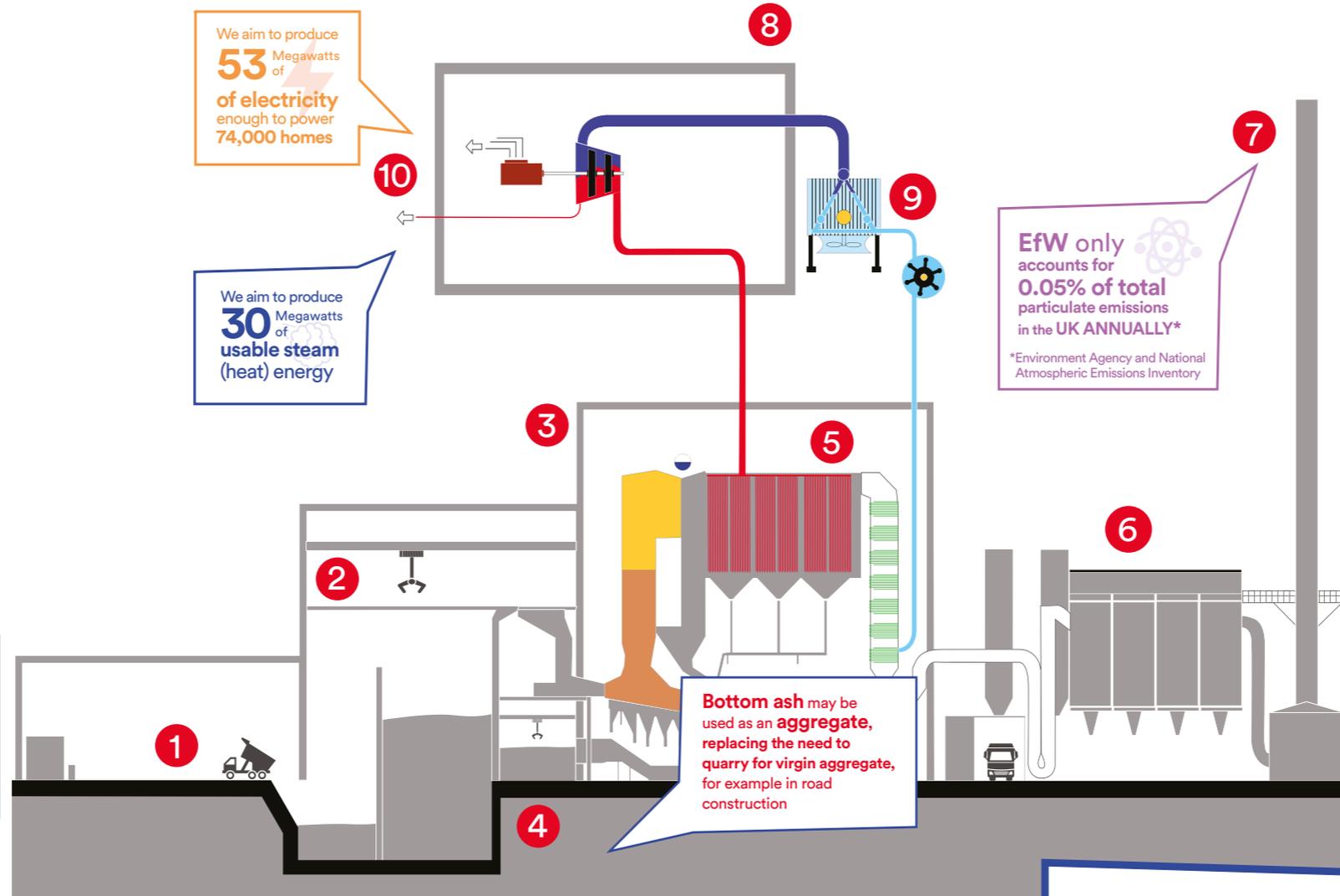
**4 Bottom ash**

Those bits of the waste that don't burn, e.g. metals and bricks, are part of the ash that falls off the furnace grate. This falls into water to cool it and is then put into a separate bunker before being taken away for recycling.



**5 Boiler**

The very hot gases from the furnace are passed through the boiler. The steam from the boiler drum goes through tubes in the boiler to superheat it, ready to be sent to the turbine.



We aim to produce **53** Megawatts of electricity enough to power **74,000** homes

We aim to produce **30** Megawatts of usable steam (heat) energy

EfW only accounts for **0.05%** of total particulate emissions in the UK ANNUALLY\*

\*Environment Agency and National Atmospheric Emissions Inventory

**10 Energy distribution**

The energy in the waste has finally been turned into useful electricity and steam for use by local industry. Any excess electricity is sent to the grid locally, displacing fossil fuels. Steam will be sent to local industry through an over ground pipeline.



**9 Air cooled condenser**

The condenser takes the exhaust steam from the turbine. Very quiet fans send cool air up through the condenser tubes. Warm water goes back to the boiler, where it is used to make steam again.



**8 Turbine hall**

Superheated steam from the boiler is sent to the turbine where it is used to drive an alternator, generating useful electrical energy. Steam can also be taken from the turbine at pressures and temperatures suitable for use by local industry. This reduces their dependency on fossil fuels and improves the overall efficiency of the facility.



**6 Air pollution control system**

Having given up most of their energy to create useful heat in the form of steam, the flue gases have to be cleaned before they enter the chimney. The flue gases are injected with activated carbon and lime which react with pollutants such as acidic gases. The filters at the end of the system ensure that the residues, together with dust from the furnace, are captured so that the flue gas entering the chimney is well within the limits set by law. The system is controlled "real time".



**7 Chimney**

The chimney height will be calculated to ensure that the limited emissions allowed under law are dispersed safely.



# features of the Medworth EfW CHP facility proposal

UK-based company MVV Environment plans to develop a new Energy from Waste (EfW) Combined Heat and Power (CHP) facility generating electricity and steam on land at Algores Way, Wisbech.

A subsidiary, **Medworth CHP Ltd**, has been set up to deliver the Medworth project. It is this company that will submit the application to the Secretary of State for a Development Consent Order. Medworth CHP Ltd will be seeking permission for an Energy from Waste Combined Heat and Power facility on the industrial estate at Algores Way, Wisbech, Cambridgeshire. Medworth CHP Ltd will be looking to employ local people to help build, operate and maintain the facility.

The development includes not just the EfW facility but also the connections to the electricity grid and industrial heat users, and some modifications to the road network.

We are committed to playing an active role in supporting and engaging our local communities and being a good neighbour. Please let us know any suggestions on how we can do this in and around Wisbech and about any local projects and/or groups that we could work with to support.

Please use the 'Community benefits' question and the 'General comments' box on the feedback form to tell us about these projects/groups.

## key elements of our proposal

A high efficiency EfW facility capable of handling residual waste, that is **waste left over after recycling** - turning it in to useful energy



INVESTMENT OF OVER  
**£300 million**

is likely to attract further quality development in the area around the site via supply of sustainable electricity and heat



Supply electricity and heat to local industrial customers

The EfW CHP facility will generate up to...

**53**<sup>MW</sup>  
of electricity  
enough to power  
74,000 homes

**50**<sup>MW</sup>  
of usable steam  
(heat) energy

Employment opportunities



**700**  
JOBS DURING  
CONSTRUCTION



**40** FULL  
TIME  
JOBS IN A RANGE  
OF SKILLED ROLES

The project will divert around

**0.5 million**

tonnes of residual waste per annum from landfill, depending on waste composition



Access  
Improvements

including some modifications to the road network



# where will it be and what might it look like?

Viewpoint D Halfpenny Lane north-west of Elm.

Indicative photomontage of the proposed Medworth EfW CHP facility



## ALLOCATION OF AREAS FOR TEMPORARY CONSTRUCTION COMPOUNDS



for the main  
construction site  
and grid connection

MVV have received two  
Point of Connection  
offers from  
UK Power  
Networks



## where will it be?

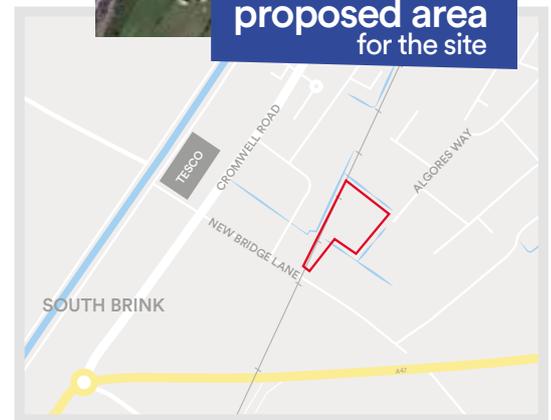
The proposed site is in the Medworth ward of Fenland District Council. The facility fits into the industrial setting, on a site that is currently used as a waste transfer station. This industrial area in Wisbech offers opportunities to achieve high efficiencies with Combined Heat and Power (CHP).

This means that some of the steam produced by burning residual waste could be used for heating or industrial processes, avoiding the use of fossil fuels.

Such steam supplies would also increase the efficiency of the proposed facility by increasing the amount of energy put to good use. We have already started talking to local companies about the opportunities to do this.



proposed area  
for the site



Find out more about the project  
by visiting our website

## landscape and visual

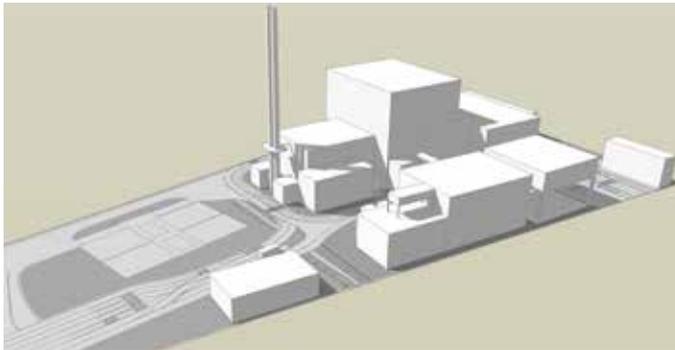
### what might it look like?

Since our non-statutory consultation last year, we have been working with architects to develop the external design of the main building.

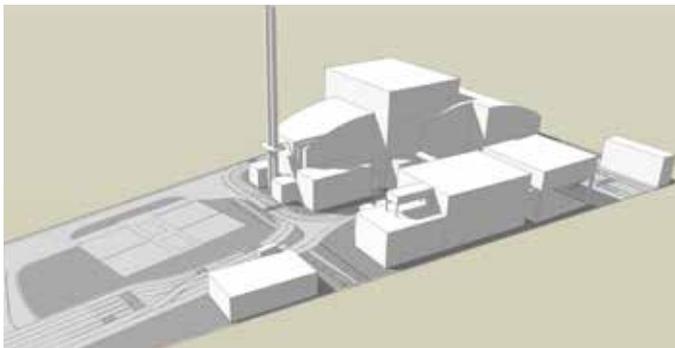
We have listened to feedback and considered how the EfW CHP facility will fit into the existing landscape.

### The EfW CHP Facility

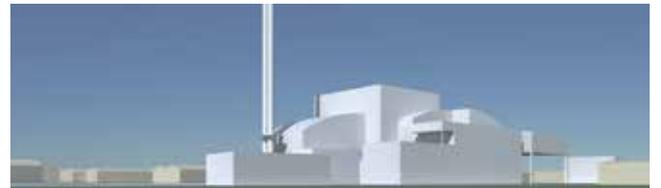
A selection of shapes and designs have been considered for the main building:



Massing model 2



Massing model 3



Massing options  
as viewed from the eastern end of New Bridge Lane

existing



proposed



**Viewpoint A:** Lidl car park west of Cromwell Road

existing



proposed



**Viewpoint B:** A47 east of roundabout junction with the B198

existing



proposed



**Viewpoint C:** Halfpenny Way Byway north of A47

existing



proposed



**Viewpoint D:** Halfpenny Lane north-west of Elm

existing



proposed



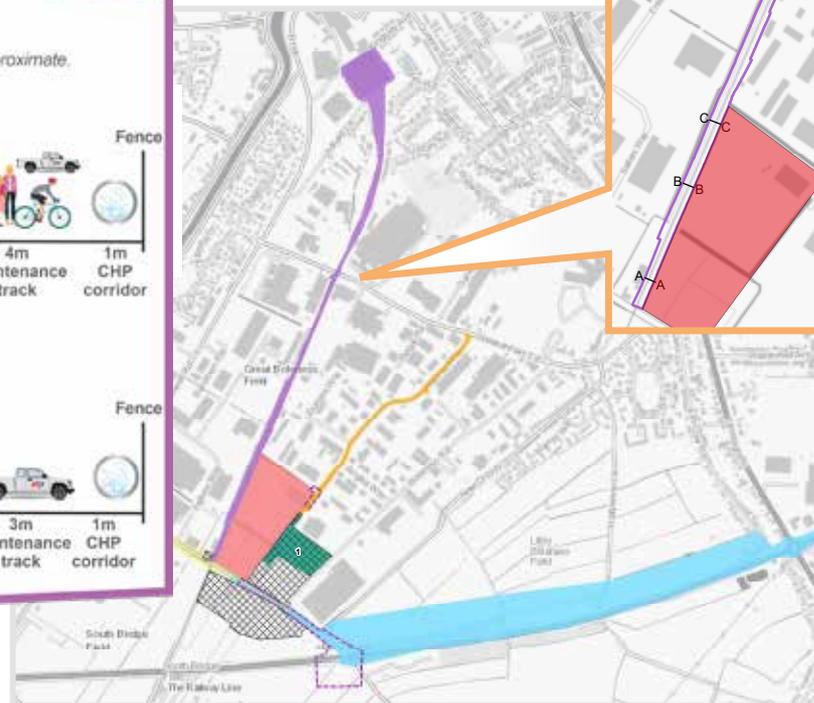
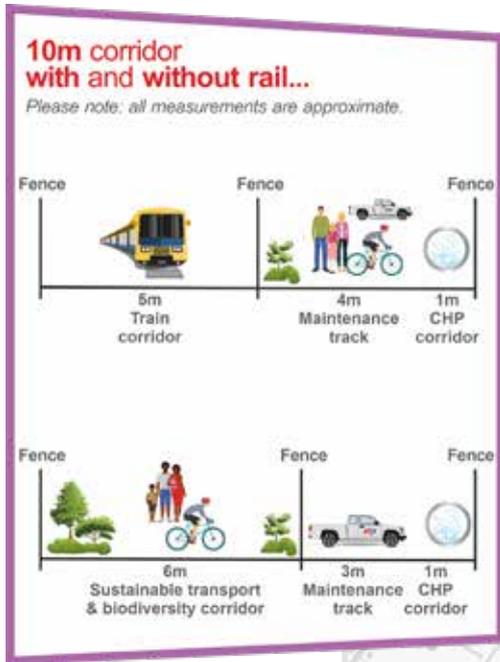
**Viewpoint E:** Begdale Road between Elm and Begdale

# associated infrastructure

The EfW CHP Facility has been designed to deliver usable steam (heat) to other businesses on the industrial estate, helping them to reduce reliance on fossil fuels in line with Government targets.

There will be two pipes, one to export steam from the Facility and one to return condensate (water) to the Facility. These pipes will run along the disused March to Wisbech railway line but will not prevent it from re-opening in the future.

## CHP connection



- Facility
- Steam (heat) pipeline
- Common grid connection
- Temporary construction compound
- Anglian Water connection

# grid connection options

## Initial discussions focused on Walpole sub-station...

Initial discussions and meetings with UK Power Networks, in August 2019, determined that a connection to the substation at Walsoken would not be possible.

Design and survey work therefore focused on the longer connection to Walpole substation, as reported in the Medworth Grid Corridor Options Report September 2020; this was presented at our non-statutory consultation in autumn last year.

## Further analysis showed Walsoken could be an option...

Further analysis by UK Power Networks showed that a point of connection could be made at Walsoken so we have looked at this much shorter route in more detail.

Three possible routes from the facility to the sub-station at Walsoken were considered, based on three factors:



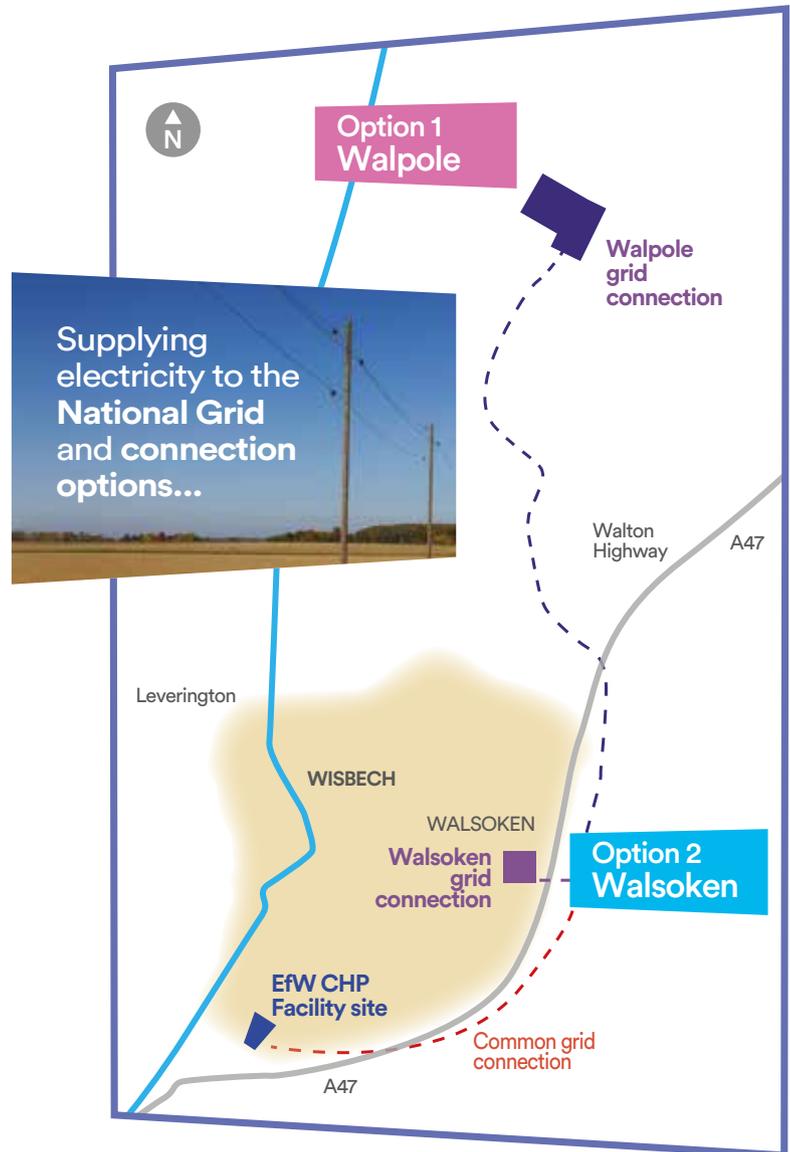
Environmental



Technical



Land use



## We will continue to review the options

and develop more detailed designs, taking into account any relevant comments and feedback received through the statutory consultation.

# access improvements

We are proposing to improve New Bridge Lane to enable lorries to access the Facility from New Bridge Lane during operations.

Currently, access is via the northern end of the industrial estate and along Algores Way, with the southern end of the industrial estate inaccessible from the south.

## Note

1. Proposed viability based on New Bridge Lane being subject to a revised 30mph speed limit.
2. Visibility requirements 4.5m x 70m, desirable minimum.



## Key

- Existing
- Proposed access scheme
- Visibility splay
- 33 Layby
- 34 Vehicle queuing area
- 35 Dropped kerb crossing
- 38 Rail embankment (by others) reservation area



# future environmental requirements

As we develop our proposals, we have taken into account the need to **ensure that future environmental requirements can be delivered**. These might include:



Carbon Capture and Storage



Biodiversity net gain



Other developments in the vicinity of our project, such as industrial/housing development, improvements to the road networks and the reopening of the disused March to Wisbech railway line

- 36 Carbon Capture and Storage or other environmental requirements, as determined by future Government policy
- 37 potential rail siding unloading area, dependent upon the reopening of the railway line and waste deliveries arriving by rail
- 38 area reserved for a rail bridge embankment, which would be linked to the reopening of the railway line (and therefore undertaken by others)
- 39 gated rail siding access, if the railway line is reopened
- 40 rail siding, if the railway line is reopened
- 41 March to Wisbech railway line, if reopened



# where will the waste come from?

Waste companies will want to deal with waste as **close to its source** as possible, to control transport costs. If approved, waste for the Medworth EfW CHP facility will come from the east of England region. This will enable MVV to ensure that the facility provides a **regional solution to a regional problem**.

Only waste that complies with the environmental permit will be accepted. In the event that non-compliant waste is identified, it will be removed from site for safe disposal/treatment.

The project will divert around  
**0.5 million**

tonnes of **residual waste per annum from landfill**, depending on **waste composition**

## what kinds of waste will you accept?

We would source non-hazardous household and business waste from the region which currently goes to landfill or for export. The exact wastes that can be accepted will be specified in an Environmental Permit, issued by the Environment Agency, based on European Waste Catalogue (EWC) codes.

## will there be plastic in the waste?

There will be an element of plastic in the waste stream. This represents those types of plastic that cannot yet be easily recycled, as well as plastic that remains after businesses or householders have separated out their recyclable waste.

Plastics that have been collected for, and are suitable for recycling cannot be accepted by MVV under the standard conditions of an environmental permit.

## Medworth EfW CHP facility aims to:

Recover useful, sustainable, energy from residual municipal waste



Divert around half a million tonnes of residual waste per annum from landfill, depending on waste composition



Generate over 50 MW of electricity



Generate up to 50 MW of usable steam (heat) energy



Supply electricity and heat to local industrial customers



Export surplus electricity to the National Grid



### Waste capacity zones\*

- Capacity gap
- Capacity balanced

*\*Suez, Mind the Gap 2017-2035, 2017*



# air quality and climate

From our non-statutory consultation, it is clear that **air quality and climate change** are of high importance to local people – as they are globally.



We have installed a **continuous air quality monitoring station**

at Thomas Clarkson Academy to establish baseline air quality.

We have considered **two aspects** relating to **climate change**:



**1** The **effect our facility might have** in terms of reducing Greenhouse Gas emissions.



**2** The **impact that climate change might have** on our facility in the future.

## Assessment



These have been assessed for the **construction, operation and decommissioning** phases of the development, as well as in relation to how they might affect the ability of the **UK Government** to meet its **carbon reduction targets**.

what is the impact on local air quality?

Thanks to state-of-the-art flue gas cleaning, our power facilities comply with the very strict UK regulations for clean air.

According to Public Health England, by comparison, industry and traffic account for about 40% of particulate emissions.

**UK EFW**  
facilities generate  
**LESS THAN 0.05%\***  
**UK PARTICULATE EMISSIONS**

\*Environment Agency and National Atmospheric Emissions Inventory

# EfW and health

The most recent independent review of evidence shows no link between EfW emissions and adverse health impacts. This is upheld by Public Health England's position, that well run and regulated municipal waste incinerators do not pose a significant risk to public health, and this should reassure anyone living near an EfW facility.

is EfW a major source of dioxins?

INDUSTRY AND TRAFFIC ACCOUNT FOR

40%\*

OF EMISSIONS IN THE UK ANNUALLY



\*Health Protection Agency (now Public Health England)

No, this is not the case due to highly sophisticated flue gas cleaning systems.

In the past, EfW facilities were a significant source of dioxins, but following reductions in emission limits in 1995 and 2000 (*that came in to effect more than 20 years ago*), EfW now accounts for less than 1% of the overall dioxin emissions to the air in the UK. In fact, dioxin emissions from EfW in the UK have changed dramatically, with a 99.8% reduction in dioxin emissions per tonne of waste since 1990.



Safety is of the utmost importance and the system is designed to ensure that emissions to air are controlled even in the event of equipment failure.

Sophisticated monitoring techniques throughout the process, from combustion through to filtration of the flue gases, ensure that the facility operates within the strict limits of the Environmental Permit.

what safety measures are in place to ensure air quality protection, even when there's an equipment failure?

who monitors waste-to-energy facilities in the UK?

The Environment Agency (EA) regulate all waste sites and act as an independent body which monitors a facility's outputs.

If limits are breached, the EA has the power to shut down the plant and impose fines accordingly.

MVV monitors the majority of emissions from the facility continuously. Other trace emissions must be monitored by extractive sampling as they are present in such tiny amounts; this is carried out at regular intervals as required by the Environmental Permit. The emissions data is logged and stored and reported to the Environment Agency weekly.



# traffic and transport

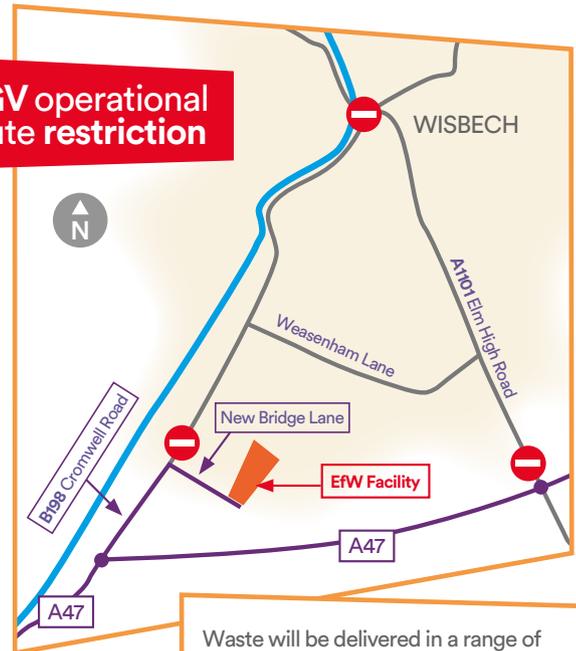
Traffic and transport effects have been assessed for both construction and operation of the Facility.

Four scenarios have been assessed for construction, to cover different access options; two scenarios have been assessed for the operational phase, based on access via Algores Way and via New Bridge Lane.

We will develop a lorry routing strategy to allow local but prevent regional deliveries from travelling through Wisbech town.

On a normal week day 181 lorries will deliver to the Facility (362 two-way movements), this includes waste vehicles already delivering to the existing waste transfer station.

## HGV operational route restriction



Waste deliveries will **only be** between **07:00** and **20:00**

Waste will be delivered in a range of vehicles, including **dustcarts (RCVs)** and **articulated HGVs**.



RCVs carry approximately **8 tonnes** of waste



Articulated HGVs carry approximately **23 tonnes** of waste

A **Construction Traffic Management Plan** will be developed and implemented to minimise the impact of construction materials and workforce travelling to and from the construction site

This document will be available:

- ✓ in draft at the Document Inspection Locations
- ✓ online: [mvv-medworthchp.co.uk](http://mvv-medworthchp.co.uk)
- ✓ at our consultation events

The traffic and transport assessments consider a range of potential impacts including delays, amenity and safety on a number of groups, including:



People at home  
People at work



Pedestrians  
Cyclists



Sensitive groups including children, elderly and disabled



Open spaces, recreational areas and shopping areas



Sensitive locations such as hospitals, churches, schools and historic buildings



Sites of ecological and nature conservation value

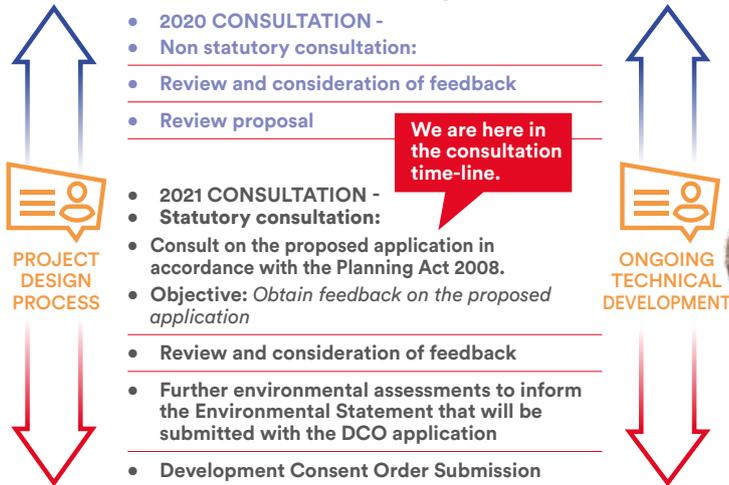


Sites of tourist/visitor attractions

# where we are in the **consultation** process

MVV invite you to take part in this statutory consultation opportunity. We **encourage comments and questions** from the community and local businesses. We want to understand the issues that are important to you and we hope that as many people as possible will come along to find out more about the project, as well as discuss any concerns they may have.

## where are we in the **consultation** process?



## what happens next?

Once the statutory consultation has finished, we will collect all of your feedback into a Consultation Feedback Report, which will accompany the DCO application.

All consultation documents will be available on our website throughout the consultation period: <https://www.mvv-medworthchp.co.uk/documents>

**Further information on events can be found on the MVV Medworth website:**  
[www.mvv-medworthchp.co.uk/events](http://www.mvv-medworthchp.co.uk/events)



# Community benefits

We are committed to delivering our services in a professional way that exceeds the needs and expectations of our customers, local communities and other stakeholders in a sustainable manner.

This is enshrined in our Safety, Quality, Wellbeing, Energy, Environment, Community and Health (SQWEECH) policy, which sets out our high-level culture and values.

We aim to engage with local communities in the vicinity of our facilities on a number of levels relevant to the context of each development.

This commitment will involve some or all of the following measures:

An education programme relating to **RESOURCE AND WASTE MANAGEMENT**



**Site visits** for interested parties



Stakeholder **consultation** throughout any necessary planning process



**Support for LOCAL COMMUNITY PROJECTS**



Links with local schools, colleges, and universities to provide **work experience, placement, and apprenticeship** opportunities



**LOCAL LIAISON COMMITTEE**



**Purpose-built visitor facilities for schools and community workshops**



**TRAINING AND EDUCATION** for staff and the wider community

**Employment opportunities** for local people



Please use the **'community benefits'** and **'general comments'** boxes on the feedback form to tell us which aspects are **most important** to you.



# Liaison committee

At our facilities in **Devonport, Plymouth, and Baldovie, Dundee**, we have established liaison committees to facilitate clear and transparent communication. As well as inviting local residents to join, we also encourage engagement from local council(s), the Environment Agency and other relevant bodies; this ensures that the relevant expertise is available for meaningful discussion.

## Get involved

Please use the 'General comments' box on the feedback form to tell us what topics you would like to discuss, where you would prefer to meet and how often.

We will use this consultation period to gather responses and feedback from as many people as possible; once we have reviewed the feedback, we will be in touch with everyone who has expressed an interest in joining the liaison committee.

## How to join?

Once formed, the Committee will meet on a regular basis to discuss issues arising, forthcoming events on site and any community benefits.

If you are interested in joining, please feel free to speak to our staff at an exhibition. Alternatively, you can contact us by phone, email or via our website.

@ Contact us via email  
[medworth@mvvuk.co.uk](mailto:medworth@mvvuk.co.uk)

☎ Telephone the team  
**01945 232 231**

🌐 Visit our website  
[www.mvv-medworthchp.co.uk](http://www.mvv-medworthchp.co.uk)

# get in touch

MVV recognises the importance of local people and knowledge to any new project and aims to develop a two-way dialogue with as wide a range of stakeholders as possible; we want to understand the issues that are important to you.

## consultation feedback



If you have any further thoughts on the project which we should consider as we finalise our proposal, please let us know. Our preferred method for collecting your comments is via our dedicated project website.

[www.mvv-medworthchp.co.uk](http://www.mvv-medworthchp.co.uk)



Other ways you can tell us what you think:



Feedback can also be provided by completing the consultation feedback form by hand and using the freepost address, "Freepost MVV".

Alternatively you can submit your consultation feedback form at one of our events. Assistance with completing feedback forms will be provided at events for those who request it.



Other forms of correspondence can also be sent using the freepost address.