



# North London Heat and Power Project

Creating a waste management facility  
in which local communities take **pride**,  
which demonstrates **value**, and is a  
model for **public sector project delivery**

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# Who are we



As chair of the North London Waste Authority, I'm proud of the important work we do to **recycle, compost** and **treat** the waste produced by our two million residents in the most cost-effective and environmentally sustainable way.

My overarching priorities are to provide the very best service to our residents and to protect the environment for future generations. These are supported by our award-winning waste prevention strategy and our efforts to become London's leading recyclers.

We have a sustainable solution for waste that can't be recycled, treating it as a resource to heat and power thousands of homes and businesses that use the facility at Edmonton EcoPark.

However, the existing facility at Edmonton is coming to the end of its operational life. To continue treating north London's waste and to prevent it going to landfill, which is extremely environmentally damaging, the facility is being replaced.

The North London Heat and Power Project will provide flagship recycling facilities and a world-class Energy Recovery Facility to treat non-recyclable waste in the most efficient and environmentally friendly way.

## Councillor Clyde Loakes

Chair, North London Waste Authority



## We help residents in the seven north London boroughs to:

↓ **REDUCE** ♻️ **REUSE** ♻️ **RECYCLE** ♻️ **RECOVER**

As one of the UK's largest waste authorities, we serve one in every 33 people in the UK. Our aims are to:

### Encourage waste prevention

We help our residents to prevent waste arising in the first place and provide tools to embed waste prevention actions into everyday life. For example, our Low Plastic Zones across north London encourage businesses and communities to cut down on single-use plastics.

### Reduce the amount of waste sent to landfill

We recognise that there is no place for landfill in a Net Zero carbon future. That's why we're replacing the existing facility at Edmonton EcoPark with new facilities to increase recycling and divert waste from landfill.

### Increase recycling rates

Where waste is produced we recycle as much as possible with a collection system that allows the widest range of items to be recycled. We also work with local residents to increase their understanding of the importance of recycling and how to recycle effectively.

### Use non-recyclable waste as a resource

We're building a world-class Energy Recovery Facility that will turn non-recyclable waste into electricity in the form of heat and power, helping to displace the need for virgin fossil fuels.

### Tackle the Climate Emergency

We run a set of wide-reaching initiatives to reduce the carbon footprint of our residents' waste following the principles of a circular economy.

# Using non-recyclable waste as a resource since 1971

**1971**

The facility at Edmonton was the first to be built in London and is now the oldest running in the UK.



**2017**

The Secretary of State granted a Development Consent Order for the North London Heat and Power Project which will invest in flagship recycling facilities and a new world-class energy from waste facility.



**21 million tonnes of waste diverted from landfill since 1971 - the same weight as 1.6m London buses**



**2014 - 2015**

Extensive consultation was carried out on proposals to replace the existing facility, which is reaching the end of its operational life.



**Compared to landfill, the Energy Recovery Facility will save the equivalent of 215,000 tonnes of CO<sub>2</sub> each year**



**2019**

Construction works to deliver the North London Heat and Power Project commenced.



**For 50 years the facility at Edmonton has used waste as a resource to generate electricity to power 80,000 homes**



**The Energy Recovery Facility will generate low-carbon energy to supply heat and electricity for up to 127,000 homes**

# Investing in a sustainable future

## Boosting recycling in north London

Our flagship **Resource Recovery Facility** will provide capacity to recycle around 135,000 tonnes of waste, including wood, metals and plastics, that might otherwise be sent to landfill. The new public **Reuse and Recycling Centre** will enable residents to bring their recyclable materials directly to Edmonton EcoPark for the first time.



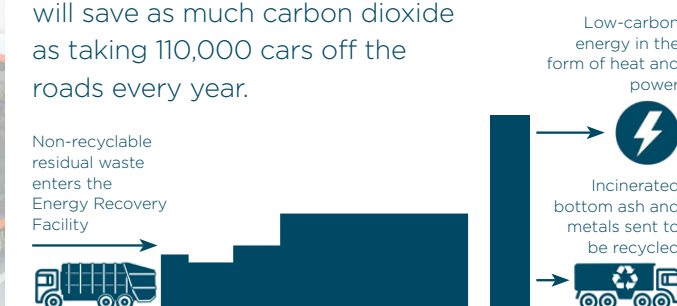
Site of the  
existing energy  
from waste plant

North Circular (A406)

## Treating unrecyclable waste as a resource

Our world class **Energy Recovery Facility** will generate efficient, low carbon heat and power – serving the needs of over 127,000 homes. We're also creating an opportunity to provide heat to Meridian Water, a flagship development in Enfield comprising around 10,000 new homes.

Compared to landfilling, the ERF will save as much carbon dioxide as taking 110,000 cars off the roads every year.



## Providing a community hub for north London

A new centre called EcoPark House will be used to teach the local community more about the circular economy and how to reduce the carbon impact of their waste. It will also be home to Edmonton Sea Cadets and provide a space for community use.

# Driving increased recycling rates across north London

## We're adding to the existing network of recycling centres to boost recycling in north London

We're investing in flagship recycling and waste management facilities at Edmonton EcoPark, including a new state of the art **Resource Recovery Facility**.

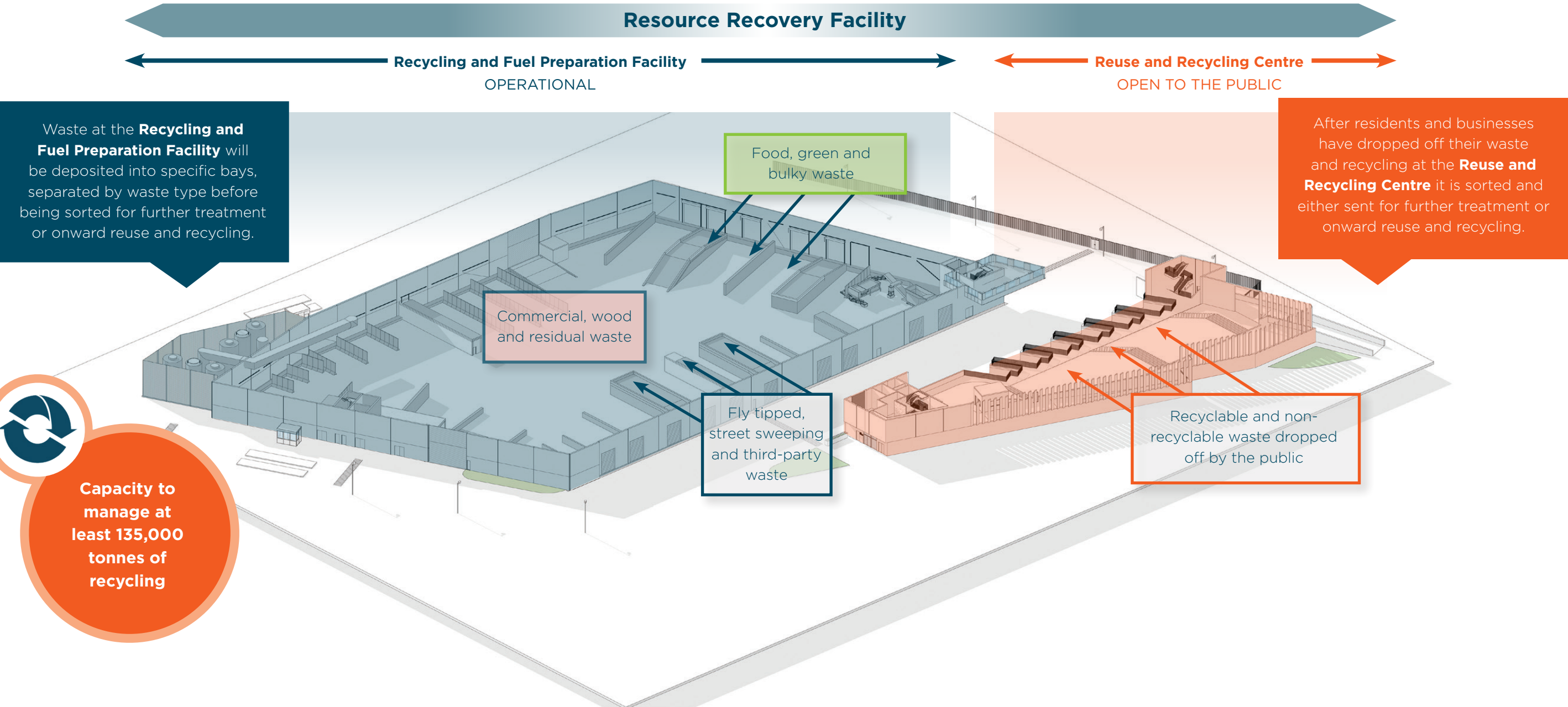
The Resource Recovery Facility will serve two main functions. One half is a **Reuse and Recycling Centre**, which for the first-time ever will allow north London residents and businesses

to drop off their recyclable and non-recyclable waste at the EcoPark. The other half is a **Recycling and Fuel Preparation Facility** where borough vehicles will deliver waste to be sorted, including the removal of materials suitable for recycling or reuse such as wood, plastics and metal, or for waste that can't be recycled to be prepared for treatment, such as Energy Recovery.

The Resource Recovery Facility is a vital asset for north London, helping to drive up recycling rates, acting as a transfer station to receive and sort waste, diverting it from landfill and helping to reduce the carbon impact of additional lorry movements. We expect the Resource Recovery Facility to manage around 135,000 tonnes of recyclable materials every year. However, we have futureproofed the facility through a flexible design to ensure it can accommodate more recycling as levels increase in the future.

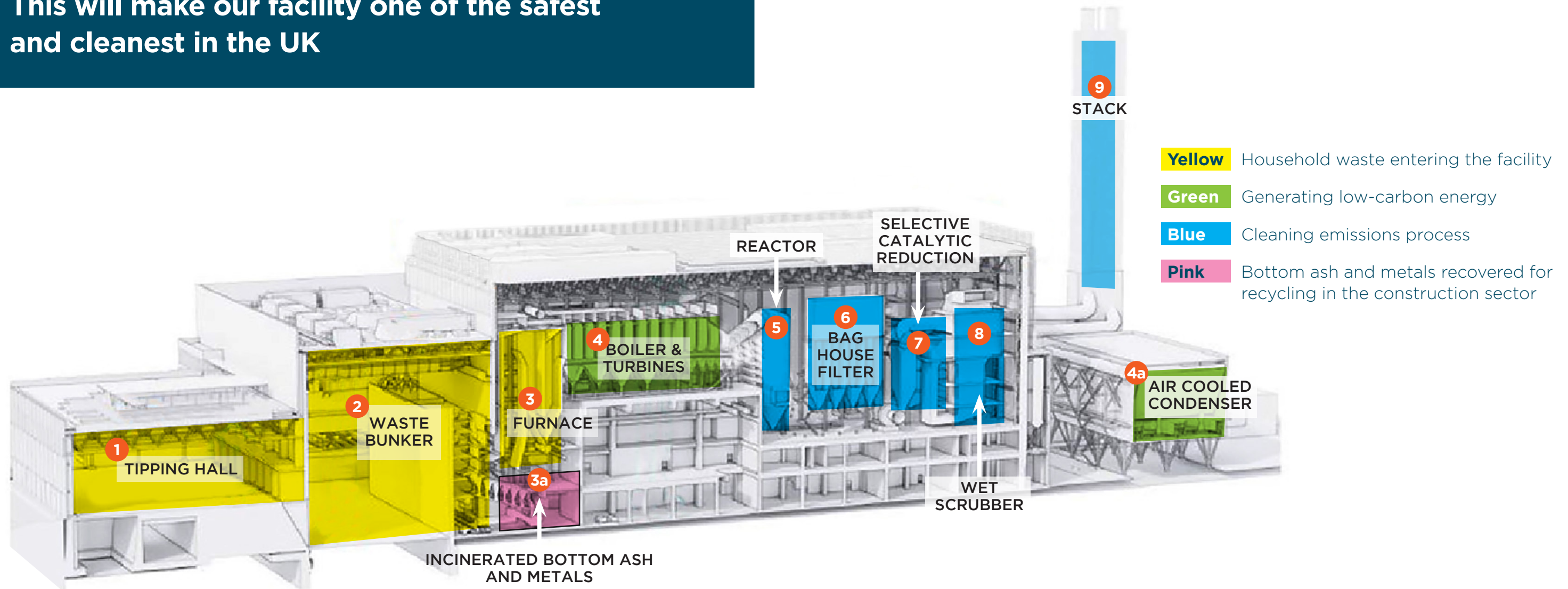


£100m investment in flagship recycling facilities to help achieve 50% household recycling across north London



# Delivering a world-class Energy Recovery Facility

We're investing in the most advanced technology possible to clean emissions.  
This will make our facility one of the safest and cleanest in the UK



- 1 **Tipping hall** – Trucks drive into the tipping hall and unload the waste for treatment.
- 2 **Waste bunker** – Waste is mixed thoroughly to help prevent pollutants from forming.
- 3 **Furnace** – Waste is combusted at 850°C for two seconds, which helps reduce the formation of dioxins.
- 3a **Incinerated bottom ash and metals** – Incinerated bottom ash and metals are taken from the furnace after waste is combusted, to then be recycled in the construction sector.

- 4 **Boiler & turbines** – Heat is used to generate steam, which drives a turbine to create low-carbon energy in the form of heat and power for thousands of homes, shops and businesses.
- 4a **Air cooled condenser** – Water that has been used to power the turbine is cooled down, so it can be sent back to the start of the process and reused. This self-sustaining loop is much better for the environment than using new water every time.
- 5 **Reactor** – Heavy metals, organics, acidic gases, furans and dioxins are treated here. Activated carbon captures the heavy metals, organics, dioxins and furans, while hydrated lime absorbs acidic gases.

- 6 **Bag house filter** – This works like a very efficient vacuum cleaner, to capture and control particulate matter. The facility is designed to perform better than known and anticipated emissions standards required for energy recovery facilities, meaning the facility will always meet the Environment Agency's strict standards as they change over time.
- 7 **Selective catalytic reduction** – The North London Heat and Power Project is the only facility in the UK to be investing in this best-in-class technology to reduce emissions of nitrogen oxide. This process converts nitrogen oxide into water and nitrogen (a harmless gas that makes up 78% of the Earth's atmosphere).

- 8 **Wet scrubber** – This is cutting edge technology that gives a final polish to the flue gas, the gas that comes out of the stack. A liquid is sprayed to neutralise gases and make doubly sure that particulates are captured. The North London Heat and Power Project will be the first facility in the UK to use combined wet and dry scrubbing to provide an extra level of safety to the process.
- 9 **Stack** – This ensures that the flue gas is dispersed effectively, so that the level of emissions that reach the ground are extremely low and undetectable. Independent studies show that less than 1% of the air at ground level will come from the facility. The vast majority of the flue gas is water vapour.

# Looking to the future



Indicative image of the Energy Recovery Facility, looking south from the River Lee Navigation.



Indicative image of the Energy Recovery Facility, looking north-east, with lit stack which is currently being considered.



Indicative image of EcoPark House, looking north from the River Lee Navigation.



Indicative image of the Energy Recovery Facility, looking north.



Indicative image of the Energy Recovery Facility rooftop space.



Indicative image of the Resource Recovery Facility, looking south towards the North Circular.

# Benefitting north London



- **Promoting careers in construction**

We're creating 225 on-site skills training opportunities for school leavers or the unemployed who want to start a career in the construction industry.

We're also providing at least 100 apprenticeships for local people during the construction phase of the project.



- **Investing locally in north London**

We want the project to benefit the local community. That's why we've set targets to achieve 25% local employment and 10% local expenditure.

- **Contributing positively in the local area**

We're creating a schools education programme to teach the younger generation about the importance of waste reduction and recycling. We're also a fair and ethical employer, paying the London Living Wage and ensuring all contractors are part of the Considerate Constructors Scheme to minimise disruption for local residents.

- **Prioritising health, safety and wellbeing**

Our commitment to health and safety is underpinned by our safety-first culture. We're dedicated to setting a benchmark for and driving excellence in safe construction practices.

- **Staying in touch**

We engage with local residents and stakeholders in a variety of ways, including our Community Liaison Group, roadshow events, newsletters and social media updates.



North London Heat and Power



@NLHPP



info@northlondonheatandpower.london



northlondonheatandpower.london



020 8489 3940