

Compliance Assessment Report CAR_NRW0040982

Permit being assessed: AP3433ES.

For: Dowlais Slaughterhouse EPR/AP3433ES, held by Kepak Group Limited

At: Pengarnddu Industrial Estate Dowlais Top , Merthyr Tydfil, South Wales, CF48 2TA.

Type of assessment carried out: Audit, Reason: Routine.

On 20/01/2023 between 09:00 and 17:00.

Parts of permit assessed: Energy Efficiency

NRW Lead Officer: Mostyn Wall.

Report sent to: Tom Caswell, Technical Services Manager, Meat Division on 08/02/2023.

1. Summary of our findings (full details in section 4)

Part of permitted activity assessed (criteria)	Assessment result	Permit condition
H2 - Resource Efficiency - Energy efficiency	Action only (X)	
B5 - Infrastructure - Plant and equipment	Action only (X)	
H2 - Resource Efficiency - Energy efficiency	Action only (X)	
H2 - Resource Efficiency - Energy efficiency	Action only (X)	

Result types are explained in more detail in the 'Important Information' section below.

Total number of non-compliances recorded	Total non-compliance score
0	0

How we use the non-compliance score to calculate your annual fee is explained in the 'Important Information' section below.

2. What action is required?

Criteria	Action needed	Complete by
H2	Kepak to send ESOS Step 3 Audit results when they have been completed and to inform NRW of any planned changes resulting from the Audit.	30/06/2023
B5	Kepak must model the impact of the planned reduced water at the effluent treatment plant. Kepak to report what is the current and predicted kgCOD/day once the reduced water is considered. Consider the impact of the reduced water on the whole effluent treatment process and report back to NRW the positives and negative impacts.	17/03/2023
H2	Kepak to map heat loss and the potential for heat recovery. Kepak to use the BREF Energy Efficiency, BAT reference document for Slaughterhouses, Animal By-products and Edible Co-products Industries and H2 Guidance Note on Energy Efficiency to undertake efficiency audits and improvements for the compressors and refrigeration units.	17/03/2023

Criteria	Action needed	Complete by
	BAT reference documents Eippcb (europa.eu) Site to report back plans for the efficiency of the compressors and refrigeration after the ESOS step 3 audit is complete. Site to report the compressor system(s) calculated pressure loss. A well maintained system should have a loss of less than 10% Site to report back to NRW the potential for heat recovery at the site.	
H2	NRW advise Kepak to see if energy savings can account for the required future energy of the site and eliminate the need for a CHP or reduce the CHP's operating hours. Kepak to estimate energy savings following the ESOS Step 3 audit. Kepak to investigate the possibility of installing a ground array solar system on the sites perimeter?	30/06/2023

Action criteria codes are listed in the 'Important information' section below.

3. What will happen next?

Any non-compliance we have identified and recorded on this form is an offence. It can result in criminal prosecution and/or suspension or revocation of your permit.

At this time, we do not intend to take any further action.

This statement does not stop us from taking additional enforcement action if further relevant information comes to light or offences continue.

4. Details of our assessment

NRW, Mostyn Wall and Lewis Evans, visited Kepak on the 20/01/2023 to discuss energy efficiency. Present from Kepak, Tom Caswell, Rebecca Thomson and Megan Lewis

Corporate Sustainability Goals

Rebecca Thomson someone gave an overview of Kepak's corporate sustainability goals. Kepak works closely with Bord Bia, the Irish food board as part of Origin Green, a national food and drink sustainability programme comprised of the Irish Government, the private sector, and the full supply chain from food producers and right through to the foodservice and retail sectors. The Origin Green scheme has multiple targets covering biodiversity, emissions, social, health and nutrition.

Kepak's sustainability strategy is based around their 5 corporate pillars, resource efficiency, responsible sourcing, agriculture, health & nutrition and people & communities. The resource efficiency targets are, greenhouse gas emissions (GHG) reduction to net zero by 2050 and a 51% reduction by 2030 (based on a 2018 reference), 7% water use reduction by site by 2023, standardised environmental and energy management system by 2025, zero waste to landfill from 2020 increase recycling rate to 75% by 2025 and 50% reduction

in food waste by 2025.

Kepak's business in the UK and Ireland have achieved 100% zero waste to landfill, 29% decrease in GHG emissions for scope 1 & 2, electricity reduction of 12%, gas decrease by 37% and oil down by 11%. The packing strategy is to use 100% cardboard and eradicate all expanded polystyrene. Kepak aims to have 30% recycled packaging by 2025.

Kepak's customers (food retailers and restaurants) have a strong focus on carbon footprint, energy efficiency and sustainability. This is a strong external driver to improve standards, efficiency and reduce the companies GHG emissions.

ESOS Audit

Kepak undertook a step 2 ESOS audit in 2018 and will undergo the step 3 audit in 2023. The step 2 audit undertook a site wide overview of the energy use looking at yearlong to hourly electricity usage. The audit found that refrigeration was the largest energy user at 46% followed by compressors at 13.5%. Kepak are planning to further map energy usage at the site and to produce Sankey diagrams of energy use.

The ESOS audit recommended several actions to improve energy efficiency. 1. Replace old inefficient compressors. 2. Leak detection of compressor. 3. Sub metering in the process areas. 4. Replace gas boilers with more modern efficient models. 5. ESOS recommended to look at the feasibility of a biomass boiler or an onsite anaerobic digester. 6. Create an energy policy. 7. Install econolisers, a more efficient sterilization process. 8. Replace old evaporators. Kepak plan to map the energy usage in more detail in the site. Kepak have started to install new compressors in November 2022.

Action: Kepak to send ESOS Step 3 Audit results when they have been completed and to inform NRW of any planned changes resulting from the Audit.

Water Mapping

Kepak are undertaking a water mapping exercise to further understand water use at the site and to identify where savings or improvements can be made. Kepak will produce a Sankey diagram showing where water is used at the site. Water metering across the site is currently being installed and is nearly complete. A mass balance exercise has shown that there are minimal water losses at the site. One area of focus is the use of a constant flow of hot water used to sterilize equipment used in the butchering and slaughtering process. A new technique is on trial where water is heated at the point of use using an electrical system. This new system only produces enough water for one knife and can potentially reduce water consumption by up to 95%. This would significantly reduce the water usage at the site and the requirement for a boiler to heat a constant stream of hot water.

A large reduction of water usage would also affect the effluent treatment process. With less water the effluent would likely become more concentrated.

Action: Kepak must model the impact of the planned reduced water at the effluent treatment plant. Kepak to report what is the current and predicted kgCOD/day once the reduced water is considered. Consider the impact of the reduced water on the whole effluent treatment process and report back to NRW the positives and negative impacts.

NRW and Kepak also discussed the possibility of using rainwater in the installation where non-potable water can be used. Kepak stated that they are looking into this and could see a potential use of rainwater in the wash down of the lairage and trucks.

Leak Detection

Kepak have installed a new leak detection system to notify and located refrigerant gas leaks. The leak detection system is placed on the pipe and plant equipment and can identify trace amounts of refrigerants. This is a marked improvement of the refrigerant system and has the potential to minimise releases of F gases that have a very high global warming potential.

Heat Recovery, Refrigeration and Compressors

NRW advised Kepak to map any heat losses from refrigeration and the compressors and if lost heat can be utilised in the site. Heat recovery can be used to reduce energy usage and improve efficiency. The ESOS audit identified the compressors, and the refrigeration are the biggest energy demand at the Kepak site. NRW advise Kepak to use the BAT Reference document for Slaughterhouses and Energy Efficiency to guide efficiency audits on the compressors and refrigeration. Audits can potentially identified large energy savings at the site.

Action: Kepak to map heat loss and the potential for heat recovery. Kepak to use the BREF Energy Efficiency, BAT reference document for Slaughterhouses, Animal By-products and Edible Co-products Industries and H2 Guidance Note on Energy Efficiency to undertake efficiency audits and improvements for the compressors and refrigeration units. [BAT reference documents | Eippcb \(europa.eu\)](#)

Site to report back plans for the efficiency of the compressors and refrigeration after the ESOS step 3 audit is complete.

Site to report the compressor system(s) calculated pressure loss. A well maintained system should have a loss of less than 10%

Site to report back to NRW the potential for heat recovery at the site.

Biodiversity

Kepak has made good efforts to improve the sites biodiversity and have planted over 1000 trees on the site. The area adjacent to the site boundary are a wild area where trees and grasses can grow without interfering the sites operations. Kepak has also worked with a local university to undertake a biodiversity assessment of the site.

CHP & Site Plans

NRW and Kepak discussed the sites growth and the need for an increase of approx. 30% more energy. NRW advised Kepak that a CHP would require a permit variation.

Solar panels were discussed. The sites roof is not strong enough to support a large solar array however it became apparent that a ground array was not considered.

Action: NRW advise Kepak to see if energy savings can account for the required future

energy of the site and eliminate the need for a CHP or reduce the CHP's operating hours. Kepak to estimate energy savings and requirements following the ESOS Step 3 audit.

Kepak to investigate the possibility of installing a ground array solar system on the sites perimeter?

Kepak have clear corporate sustainability goals and targets to reduce energy and water usage. Increasing energy efficiency is a clear benefit to the business as it saves costs and allows CO2 reductions to be passed down the supply chain and to Kepaks customers. Kepak has an aging site and can make significant cost-effective savings by undertaking audits and implementing ESOS and internal recommendations. Overall Kepak and the Kepak site in Merthyr are doing a good job working towards meeting their corporate and site goals.

END.

If you have any queries about this report, or to discuss completion of any actions, please contact the NRW Officer named above.

Important information

Legal status of this report

Your permit is issued to you under the Environmental Permitting Regulations. You have a responsibility to comply with the conditions of your permit and prevent pollution/harm of the environment. You must also ensure that you comply with any other relevant legislation that may apply to your site's operations.

This report explains the findings of our assessment and any action you are required to take. We categorise non-compliance using our guidance for assessing non-compliance at regulated sites.

When we find potential non-compliance/s we will normally give you advice on how to maintain compliance.

To correct non-compliance, we may:

- require you to take specific actions
- issue a notice
- review the conditions of your permit.

Any advice and guidance we give will be without prejudice to any other enforcement response that we consider may be required.

Assessment results and non-compliance categories (used in section 1):

Assessment result	Description
Assessed (A)	Assessed or assessed in part, no evidence of non-compliance found
Action only (X)	Action only relating to the activity assessment
Ongoing (O)	Ongoing non-compliance, not scored

Non-compliance category	Description	Score
C1 Major	Potential to have a major, serious, persistent and/or extensive impact or effect on the environment, people and/or property	60
C2 Significant	Potential to have a significant impact or effect on the environment, people and/or property	31
C3 Minor	Potential to have a minor or minimal impact or effect on the environment, people and/or property	4
C4 No environmental impact	Non-compliance at a regulated site that cannot foreseeably have any impact on the environment, people and/or property	0.1

How we use assessment scores

The number and severity of non-compliances recorded in a year will affect your annual subsistence fee the following year. A non-compliance factor is added to your site's Operator

Performance Risk Appraisal (OPRA) score when we calculate your fee to reflect the additional resource we use to assess permit compliance.

What are suspended scores?

In line with our guidance, we may suspend scores for up to six months to allow time for remedial action to be taken. Suspended scores will be re-instated if the action is not completed.

Full list of Industry and Waste action criteria (used in section 1 and 2):**A: Permitted activities**

- A1 Specified by permit

B: Infrastructure

- B1 Infrastructure – Engineering for prevention and control of emissions
- B2 Infrastructure – Closure and decommissioning
- B3 Infrastructure – Site drainage engineering (clean and foul)
- B4 Infrastructure – Containment of stored materials
- B5 Infrastructure – Plant and equipment

C: General management

- C1 General management – Staff competency/training
- C2 General management – Management system and operating procedures
- C3 General management – Materials acceptance
- C4 General management – Storage, handling, labelling and segregation

D: Incident management

- D1 Incident management – Site security
- D2 Incident management – Accidents, emergency and incident planning

E: Emissions

- E1 Emissions – Air
- E2 Emissions – Land and groundwater
- E3 Emissions – Surface water
- E4 Emissions – Sewer
- E5 Emissions – Waste

F: Amenity

- F1 Amenity – Odour
- F2 Amenity – Noise
- F3 Amenity – Dust/fibres/particulates and litter
- F4 Amenity – Pests/birds and scavengers
- F5 Amenity – Deposits on road

G: Monitoring and records, maintenance and reporting

- G1 Monitoring and records, maintenance and reporting – Monitoring of emissions and environment
- G2 Monitoring and records, maintenance and reporting – Records of activity, site diary/journal/events
- G3 Monitoring and records, maintenance and reporting – Maintenance records
- G4 Monitoring and records, maintenance and reporting – Reporting and notification to Natural Resources Wales

H: Resources efficiency

- H1 Resource efficiency – Efficient use of raw materials
- H2 Resource efficiency – Energy efficiency

Enforcement response

Any permit condition non-compliance is an offence and we may take legal action against you. Action we take can include prosecution, serving a notice on you and/or suspension or revocation of your permit. See our Enforcement and Sanctions Guidance for further information.

Data protection notice

You should make sure that anyone named in this report knows that the information it contains will be processed by Natural Resources Wales to fulfil its regulatory and monitoring functions and to maintain the relevant public register(s).

We may also use and/or disclose the report in connection with:

- offering or providing you with our literature or services relating to environmental matters
- consulting with the public, public bodies and other organisations (e.g. Health and Safety Executive, local authorities) on environmental issues
- carrying out statistical analysis, research and development on environmental issues
- providing public register information to enquirers
- investigating possible breaches of environmental law
- assessing customer service satisfaction and improving our service
- Freedom of Information Act or Environmental Information Regulations requests.

We may also pass it on to our agents or representatives to do these things on our behalf.

Disclosure of information – this report will be available to view on-line

If you think this report contains commercially confidential information that should not be placed on our public register, you must contact your local Natural Resources Wales office within **fifteen working days** of receiving this report, using the contact details in the accompanying email or letter. You must give a full explanation of why it should not be added to our public register, including specifying which information is commercially confidential. We will assess your request and respond to you within 20 working days to let you know if we agree to your request.

What do I do if I disagree with the report or have a complaint?

If you disagree with this compliance assessment report, you should contact the lead officer without delay to discuss your concerns.

If you are unable to resolve the issue with the lead officer or their line manager you should contact our Customer Contact team on 0300 065 3000 (Monday to Friday 08:00 – 18:00), or email enquiries@naturalresourceswales.gov.uk for details of how to raise your dispute further through our Complaints and Commendations procedure.

If you are dissatisfied with our response, you can contact the Public Services Ombudsman for Wales by phone on 0300 7900203 or by email at ask@ombudsman.wales

Welsh Language Standards

We are committed to establishing Natural Resources Wales as a naturally bilingual organisation. We will provide compliance reports in your preferred language.