Dŵr Cymru
Welsh Water

Frequently Asked Questions

About Cog Moors Treatment Works Upgrade

What is the Cog Moors Treatment Works?

Cog Moors is a wastewater treatment works, first opened in the 1990s to treat wastewater for the residents of Dinas Powys, Sully, Penarth, Barry and the west of Cardiff. It is situated on the A4055 between Barry and Dinas Powys.

What are Welsh Water doing in Cog Moors?

Welsh Water is investing **over £50 million** to install an Advanced Anaerobic Digestion (AAD) plant as part of our upgrade to the treatment works onsite.

Why are Welsh Water building an AAD at Cog Moors?

Welsh Water is one of the largest energy users in Wales, operating and maintaining a network of water mains, sewers, sewage treatment works and reservoirs. With an annual energy bill of £44 million, we have been looking at ways to generate electricity on our sites and lower our costs.

We are committed to generating 30% of our own energy needs by 2020 and by 2050 we aim to become an energy neutral business by further investing in AAD, solar, hydro, wind and other renewable technologies.

The Cog Moors AAD site will also help Welsh Water meet its 100GWh production of electricity renewable energy target by 2020.

What does an AAD plant do?

An AAD plant is a combined heat and power facility which produces biogas from the anaerobic digestion of sewage sludge collected from waste in our sewage system in the area. This is heated up in giant tanks which helps us to create biogas. The biogas is moved to gas powered engines to generate electricity which will be used to power the plant.

The left over sludge becomes a biosolid known as “cake and is collected and used as a sustainable soil enhancer and environmentally friendly alternative to chemical fertilisers.

What's the benefit of the AAD plant for Welsh Water?

The new AAD plant will produce 2.028MWh of electricity a year which will power the AAD plant and make the Cog Moors wastewater treatment works a self-sufficient and carbon neutral site. As a not for profit organisation, we will then be able to reinvest more into keeping customer bills low and upgrading our assets across our operating areas.

What is the benefit is the AAD plant for the general public?

The new AAD plant is a more efficient and environmentally friendly way to treat wastewater for our customers in the Vale of Glamorgan. The AAD plant will help Welsh Water manage the effects on climate change, reduce our running costs and carbon footprint and help lower customer bills.

<u>During Construction Phase</u>

How long will it take to build?

Work to build the new AAD plant began in September 2018 and will be completed by the end of November 2020. After this, we will need to carry out some final testing before the plant becomes fully operational by March 2021.

What does the testing of the AAD plant involve?

We need to test each stage of the AAD plant to ensure it's safe and meets stringent environmental guidelines.

As part of the testing process, we will be delivering and heating up sludge in giant tanks. We will then test each stage of the AAD process to create biogas, before testing our gas-powered engines ability to create electricity to use on site.

Once we are satisfied that the AAD plant works safely and efficiently, the plant will become fully operational.

What will Welsh Water do to support the community during construction?

We will keep the local community informed by writing regular update newsletters to raise awareness of recent and future developments onsite. We will keep the local media informed of any milestones via press releases in the local press and social media updates. Welsh Water will also be attending various local events where possible to promote the scheme.

Project timeline

August 2019

- Refurbishment of existing concrete digesters and installation of new digesters begins.

September 2019 – June 2020

- Delivery and installation AAD plant

October 2020

- Start the commissioning of the new AAD plant.

November 2020

- Complete the construction of the new AAD plant.

February 2021

Complete the testing the new AAD plant. Once testing is complete the new AAD plant will become fully operational.

Post construction

Once operational, will there be more vehicles coming and going to Cog Moors site?

Once operational, there will be less vehicles travelling to and from the site, though the effect on the roads around site will be of no impact compared to the traffic at present.

Will there be an increase in noise from the site once the plant is operational?

We don't anticipate an increase in noise once the plant is operational. The site is designed to stay below a certain noise level to mitigate any effect to the community. During the commissioning process we will monitor the noise to evaluate whether we need any further noise mitigation is needed in the future.

Will there be any environmental or health impact from air pollution from AAD?

An air quality report was published based on the new plant going in and it concluded that there would be no impact to human receptors or habitats around the site.

Will there be any visual impact from the development of the AAD?

The AAD plant will not be seen from the A4055 and we have made provision to plant trees and other measures to remove the visual impact of the AAD plant and stack for those overlooking the site. The Cog Moors Wastewater Treatment site is overlooked by only a small number of smallholdings and neighbouring farms. For these residences any visual view of the works at present will remain, however the new plant will be the same height as the existing digesters on site.

What will happen to the Cog Moors Education Centre?

The Cog Moors Wastewater site has played host to a Welsh Water Education Centre since 2003. Due to construction of the AAD plant, we have had to temporary close the education centre, and local school children have visited our Cilfynydd Discovery Centre instead. We aim to reopen the Cog Moors Education Centre in 2021.

As part of the upgrade, Welsh Water has been visiting local primary schools, in person and virtually, to educate local children on our work and educate children on water.