

managing Cornwall's household waste

**April 2018
— March 2019**



on behalf of Cornwall Energy Recovery Ltd



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In the 2018-2019 contract year, we sought to build on the successes of previous years by increasing the amount of materials Cornwall can recycle and further reducing the amount of Cornwall's waste sent to landfill, achieving over 97% diversion from landfill.

Our visitor centres at Bodmin materials recycling facility and Cornwall energy recovery centre continue to be popular, hosting 2,997 visitors throughout the year. These visitors were able to see first hand what happens to the recycling and rubbish collected from homes around Cornwall. Our education team also supported community projects like the St Blazey Recycle, Reuse and Resale Community Interest Company, organised beach cleans and supported Cornwall Council's healthy workplace programme.

We completed the restoration of the closed United Mines landfill where the young heathland is continuing to establish, creating a home for wildlife and increasing biodiversity in the area. Following this success, we worked with ecologists to create a similarly biodiversity-focused plan for the restoration of Connon Bridge landfill that will now include wet willow woodland, wet grassland, broadleaf woodland and native scrub habitats.

Our team in Cornwall also faced challenges this year when the turbine at the Cornwall energy recovery centre experienced an unexpected fault to its rotor in June 2018. Whilst the facility continued to process Cornwall's household waste, it was unable to generate electricity from June 2018 to April 2019 while repairs were carried out and the turbine was recommissioned.

Despite this challenge, we were able to divert more of Cornwall's waste from landfill than ever before. By installing a shredder for bulky waste at Connon Bridge, we were able to send 17,626 tonnes of waste that would previously have gone to landfill for energy recovery over the 2017-2018 contract year, helping to deliver Cornwall Council's Resources and Waste Strategy goal of gaining greater value from waste sent for disposal.

Over the coming year, we look forward to helping Cornwall residents to recycle more with the opening of a new household waste recycling centre in Truro and by expanding the food and drink carton recycling programme to more household waste recycling centres. We'll also be embarking on a development programme to adapt our network of facilities in readiness for Cornwall Council's new collection service which will allow residents to recycle more of their rubbish at home.

John Scanlon

Chief Operating Officer – Operations
SUEZ recycling and recovery UK

Ian Sexton

Chairman
Cornwall Energy Recovery Ltd

Everyone knows how household bins are emptied in Cornwall: a truck pulls up, the crew jump out, tip the contents into the back and drive away.

However, most people don't know what happens after their waste and recycling is collected.

What happens is Cornwall Council's Integrated Waste Management Contract; this does the complex job of sorting, distributing and disposing of our rubbish and recycling through a network of:

- ▶ **Materials recycling facilities and waste transfer stations**
Collection vehicles deliver the rubbish and recycling to these facilities.
- ▶ **Household waste recycling centres**
Our recycling centres accept most household items the Council can't collect from your home – things like carpets and furniture.
- ▶ **Composting operations**
Residents' garden waste is taken here to be turned into compost.
- ▶ **Cornwall energy recovery centre**
Here, around 240,000 tonnes of unrecyclable rubbish that would once have gone to landfill is turned into enough electricity to power the equivalent of 21,000 homes per year.

In 2018, we built on the success of previous years by:

- ▶ Further improving performance.
- ▶ Moving waste further up the hierarchy away from disposal to focus even more closely on re-use and minimisation.
- ▶ Diverting more waste that previously would have gone to landfill to the energy recovery centre, including 'black bag' waste from our recycling centres and a new waste shredding operation for bulkier items of rubbish.

We have also faced challenges this year.

A defect with the electricity turbine at the energy recovery centre meant that, although waste was still managed, it wasn't able to generate electricity for most of the year. I'm pleased to report this is now fixed and it is generating electricity again. An investigation into the causes of the failure is ongoing.

In addition, the construction of Truro's new household waste recycling centre stalled in spring when the building contractor went into administration. Cornwall Council, Cornwall Energy Recovery Ltd and SUEZ worked together to appoint an alternative contractor and the facility opened in September 2019.

We are embarking on a period of major change to rubbish and recycling services in Cornwall and the next few years will be particularly important for the Integrated Waste Management Contract. We have two further new recycling centres planned for Pool and Newquay. We also need to adapt some of our waste reception facilities so they work better with the new rubbish and recycling collection service due to start in October 2020, which will increase Cornwall's waste management performance considerably.

We are working to continuously improve our performance and the services we deliver. If you'd like to read more about this, you'll find details in our Resources and Waste Strategy.

Lastly, thank you for all you do to help us keep Cornwall green and prosperous – from sorting your recycling at home which keeps the quality of our recycling so high, to driving your garden waste to one of our recycling centres so it can be composted.

It all helps.

Meur ras.

Cllr Rob Nolan

Cornwall Council Cabinet Member
for Environment and Public Protection

about this report



This report is designed to give community members and stakeholders a behind the scenes view of how Cornwall Council and SUEZ recycling and recovery UK are working together to make a difference for Cornwall and to protect its unique environment.

In the following sections, we review highlights of the contract year, utilising case studies to show how our work is contributing to environmental growth and delivering the priorities laid out in Cornwall Council's Resources and Waste Strategy.

Cornwall Council

As a waste disposal authority, Cornwall Council is responsible for collecting and processing approximately 263,000 tonnes of household waste and recycling collected from the 550,000 residents living in the county and deposited at the county's 13 household waste recycling centres.

Cornwall Energy Recovery Ltd

Cornwall Energy Recovery Limited was created to manage the county's household waste, on behalf of Cornwall Council, for the duration of the contract until 2039. Cornwall Energy Recovery Limited is made up of three shareholders: Pensions Infrastructure Platform, i-Environment Investments, and SUEZ recycling and recovery UK. In addition to being a shareholder, SUEZ is responsible for running the day-to-day operations of the network of facilities that manage Cornwall's household waste.

SUEZ Recycling and Recovery UK Ltd

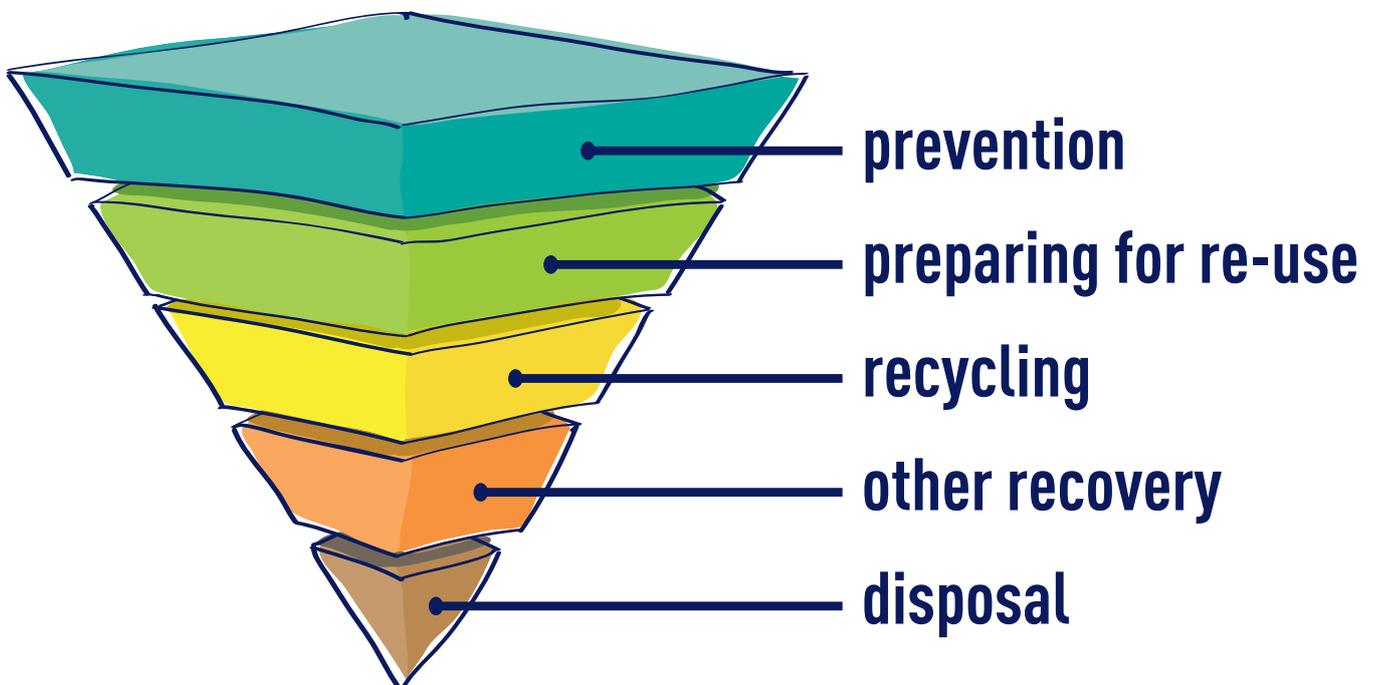
Part of the global SUEZ group, SUEZ Recycling and Recovery UK Ltd employs over 5,000 people and handles more than 10 million tonnes of waste over the course of a year. Established in the UK in 1988, our company delivers innovative and environmentally-responsible solutions for the waste generated by households and businesses across the country.

managing Cornwall's waste

In this section, we explain how we are working together to treat Cornwall's waste as a valuable resource, utilising our comprehensive network of facilities to deliver the priorities laid out in Cornwall Council's Resources and Waste Strategy and provide safe, efficient and reliable services to manage waste materials generated by residents.

The waste hierarchy

When it comes to processing recycling and residual waste, there are several different options. When ranked by their environmental impact, these options form a pyramid known as the 'waste hierarchy'. Each step in the pyramid is one step closer towards realising a society with zero waste.



Later in this report, we present case studies which are ordered according to the waste hierarchy, detailing initiatives we have undertaken this year to help reduce waste, promote re-use, increase recycling and divert more materials away from landfill.

Delivering an integrated strategy

Our main objective is to support the priorities in Cornwall Council's Resources and Waste Strategy by providing safe, efficient and reliable services to residents with the aim of eliminating waste sent to landfill and increasing the amount that is recycled and recovered. To date, Cornwall Council and Cornwall Energy Recovery Limited has invested over £180 million to provide Cornwall with modern facilities that allow greater access for the community and more efficient recycling, moving materials up the waste hierarchy by delivering an integrated strategy focused on the four R's: **reduce, reuse, recycle and recover**.

Reduce

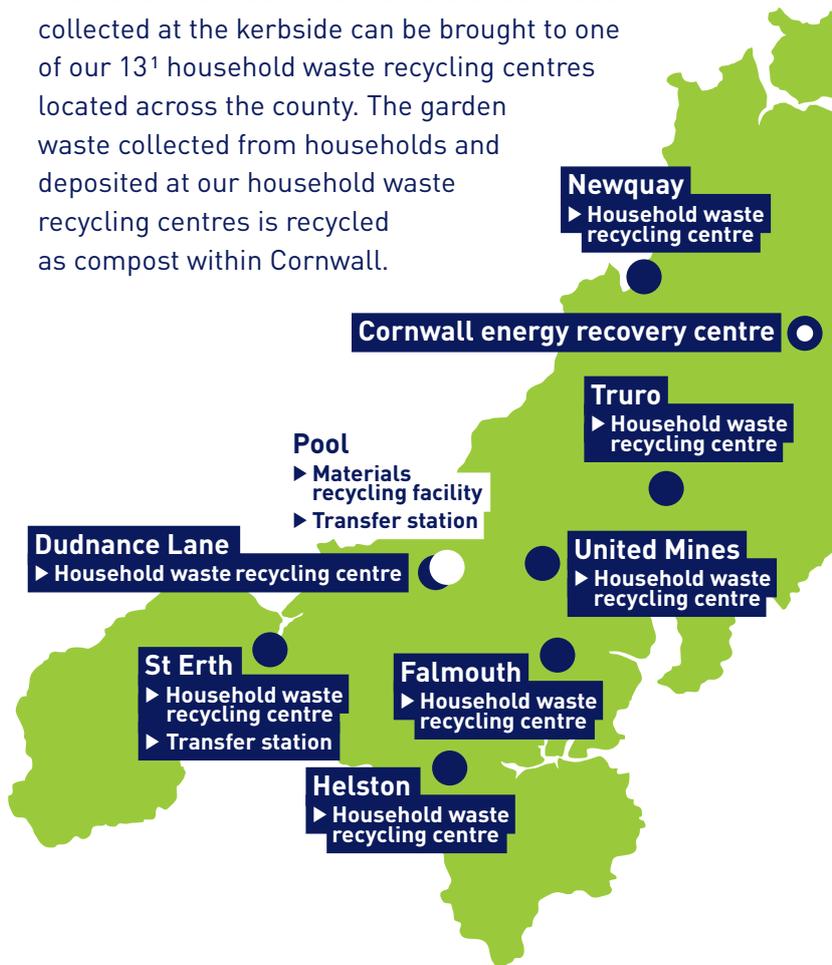
The most manageable waste is the waste that is never created, so we first aim to educate the public and help reduce the amount of waste produced by the 280,000 households in Cornwall. The visitor centres at Bodmin materials recycling facility and Cornwall energy recovery centre host scheduled visits from schools and community groups and provide a comprehensive look at the lifecycle of waste, its environmental impact and the responsibility that lies with each individual.

Reuse

We aim to extend the useful life of unwanted items, like furniture or clothing, by working with local re-use organisations, where possible, who collect the items from our sites, refurbish them where necessary and sell them on or donate them to local families in need.

Recycle

We manage a network of recycling facilities across Cornwall. All of the recycling collected from the kerbside is sorted and baled at one of our two materials recycling facilities, located in Bodmin and Pool. Most household items that cannot be collected at the kerbside can be brought to one of our 13¹ household waste recycling centres located across the county. The garden waste collected from households and deposited at our household waste recycling centres is recycled as compost within Cornwall.



To date, Cornwall Council and Cornwall Energy Recovery Limited have invested over £10 million in updating these two materials recycling facilities, opening five new household waste recycling centres with a sixth near completion, redeveloping seven existing sites and opening four new transfer stations. This year, we began construction on a new, modern household waste recycling centre in Truro, due to open later in 2019.

¹ From September 2019, the number of household waste recycling centres in Cornwall increased to 14 following the completion of the new Truro facility.



Recover

Waste left over after re-use and recycling is sent to the Cornwall energy recovery centre near St Dennis, where it is used as a sustainable fuel to generate energy for the local electric grid. Unfortunately, a fault in the turbine at the energy recovery centre meant that energy generation was temporarily halted from June 2018 to April 2019 to allow for specialist engineering works and recommissioning. During this time, the Cornwall energy recovery centre continued to process Cornwall's residual waste, diverting it from landfill, with the exception of February and March when waste was temporarily sent to landfill while reinstalling the turbine and repairing the surrounding pipework. Of the 5,412 tonnes of waste sent to landfill this contract year, 1,278 tonnes were diverted as a result of the turbine repair works, while the rest was bulky waste that was not suitable for energy recovery.

The Cornwall energy recovery centre has the capacity to process all of the residual household waste produced in Cornwall, providing a local solution which is more sustainable than landfill.

Any waste remaining after applying the four R's, waste that is bulky or unsuitable for energy recovery, has previously been sent to landfill or for special treatment just outside the county. In an effort to further decrease the amount of residual waste sent to landfill, in 2018 we began a shredder operation at the Connon Bridge transfer station to help bring bulky waste down to a suitable size for the energy recovery process. We introduced bulky waste shredding in phases beginning in late April 2018 and have been able to move an additional 17,676 tonnes up the waste hierarchy this contract year, diverting it from landfill. From April 2018 to March 2019, only 4,134 tonnes of bulky waste was sent to landfill.

With the shredder now fully operational and the turbine successfully reinstalled and recommissioned, no residual waste is currently being sent to landfill, and we continue to focus on recycling and recovering as much of Cornwall's waste as possible. A graph showing how we processed Cornwall's household waste in the contract year can be found in appendix one.



The four R's in action

In the 2018-2019 contract year, the 550,000 residents of Cornwall produced 263,613 tonnes of waste. Managing this high volume of material requires coordination and strong teamwork across a network of facilities throughout the county.

Once residual waste is collected at the kerbside, it is taken by vehicle to a refuse transfer station where it is emptied and then re-loaded onto larger bulk vehicles and taken for recovery at the Cornwall energy recovery centre. These transfer stations have an important role to play in protecting Cornwall's environment, as they reduce the amount of vehicles needed, thereby reducing traffic congestion and air pollution. Waste and recycling collected near our processing facilities can be taken there directly, but our five transfer stations act as a vital link for materials collected further afield – helping us to recycle and recover a combined total of over 258,000 tonnes of waste in Cornwall this year.

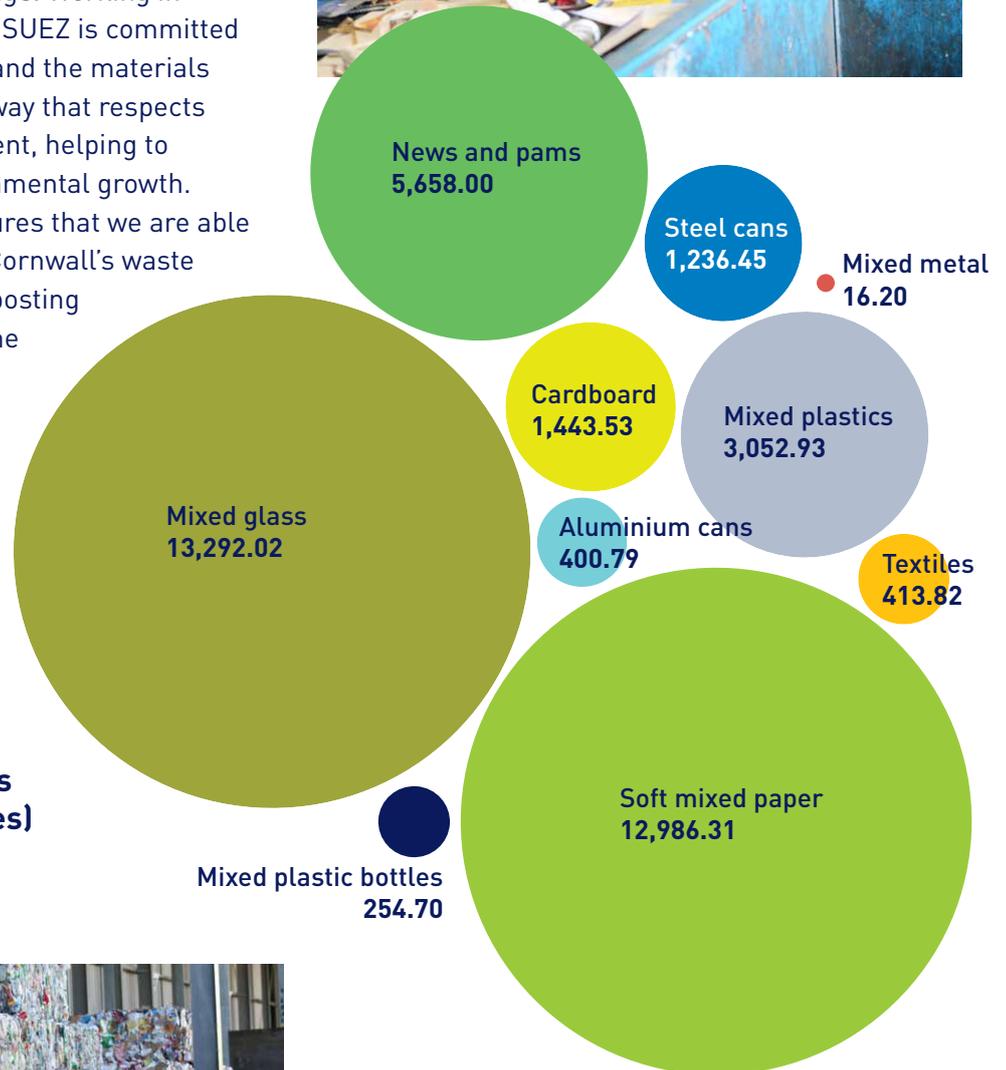
Over 50,000 tonnes of household recycling waste is collected from the kerbside and taken directly for processing at the materials recycling facilities at Bodmin and Pool.

Every day, our operations work in harmony to make efficient use of resources, protect Cornwall's unique environment, and provide a sustainable and economical solution for Cornwall's household waste. By applying the four R's to the 263,613 tonnes of waste produced in Cornwall this year, we were able to divert over 97% away from landfill.



stewardship of our assets

In January 2019, Cornwall Council declared a climate emergency, signalling their intent to take urgent action on climate change and protect Cornwall's rich natural heritage. Working in partnership with the council, SUEZ is committed to managing our operations and the materials we process in a sustainable way that respects Cornwall's natural environment, helping to deliver economic and environmental growth. Our network of facilities ensures that we are able to get the most value out of Cornwall's waste by reusing, recycling or composting a total of 104,048 tonnes in the 2018-2019 contract year.²



Materials separated for recycling at the materials recycling facilities (tonnes)



Just as we aim to create value from waste, we also aim to add environmental value in areas where we operate. The following case study shows how we are helping to rebuild priority habitats in Cornwall, encouraging increased biodiversity and supporting the target outcomes of Cornwall Council's Environmental Growth Strategy.

² In line with Cornwall Council's recorded recycling rate, this includes wood sent for biomass energy recovery.



↑
THE DELICATE HEATHER PLANTS AT UNITED MINES GROW IN AMONGST THIS NETWORK OF NURSE GRASSES. THE GRASS PROTECTS THE PLANTS AND THEN DIES OFF NATURALLY, LEAVING THE HEATHER TO GROW. IT TAKES ABOUT 10 YEARS FOR THE HEATHER TO FULLY ESTABLISH.

↑ THERE ARE NOW HUNDREDS OF SMALL HEATHER PLANTS GROWING AT UNITED MINES

CASE STUDY

Restoring Connon Bridge and United Mines landfills

In July 2018, United Mines landfill was officially deemed to be restored and is now in aftercare. Working closely with Cornwall Council and with expert guidance from Code7 Consulting, a locally-based ecology consultancy, the former landfill site has now been restored to a mix of habitats, including lowland heathland. Lowland heathland has declined by 80% over the last century and is designated a priority habitat by the Department for Environment, Food and Rural Affairs (Defra).

Following the successful restoration of United Mines, SUEZ sought to re-evaluate the approved restoration plans for Connon Bridge landfill, which were primarily focused on creating agricultural land. Working again with Code7 Consulting, the team conducted thorough soil analysis and reviewed the habitats surrounding the site and the local area, identifying habitats which would blend well with the diversity of the surrounding area, provide biodiversity net gain and require minimal maintenance during aftercare.

Ultimately, SUEZ applied to alter the restoration plans to include a wet willow woodland habitat, also identified as a priority habitat by Defra, along with wet grassland, native broadleaf woodland and native scrub. If approved, these new habitats would help encourage medium to high biodiversity net gain, in line with Cornwall Council's 2018 Planning for Biodiversity Guide and the UK Biodiversity Action Plan. The new plan would also reduce emissions by utilising soils already available on site, creating 3,000 fewer HGV deliveries to site.

The amended restoration plans have now been approved by the planning authority and work has begun to prepare the soil for planting. The new plans also include two new permissive paths with a viewpoint across the site and surrounding area, allowing for public recreation.

By restoring former landfills to priority habitats, SUEZ helps to deliver environmental growth, supporting Cornwall Council's aim to restore species diversity and abundance across Cornwall.



↑ NATURALLY REGENERATING WILLOW WOODLAND GROWING ON THE OLDER PARTS OF CONNON BRIDGE LANDFILL.

working to deliver Cornwall Council's resources and waste strategy



In early 2018, Cornwall Council published their new Resources and Waste Strategy³, aptly titled “It’s in Our Hands,” setting future goals and a delivery plan to ensure that we are treating waste as a resource and recovering as much value from materials as possible. The strategy introduces four broad goals, along with a detailed list of six tasks which must be undertaken in order to support the health and quality of the environment in Cornwall.

The following section includes case studies of several highlights from the 2018-2019 contract year to illustrate how our work addresses the needs of Cornwall’s residents and delivers the tasks laid out in the Resources and Waste Strategy, using a circular economy approach to support the council’s overall goal of minimising waste sent for landfill and increasing re-use and recycling.

Strategy goal: Support sustainable use of materials and management of waste by minimising waste sent to landfill, and gaining greater value from waste sent for disposal.

In the 2018-2019 contract year, Cornwall sent 39% of household waste for re-use, recycling and composting.⁴ This is a 2% increase over 2017 levels, which was achieved in part by implementing the following re-use and recycling initiatives →

³ www.cornwall.gov.uk/media/35608767/resources-and-waste-strategy-2018-web.pdf

⁴ In line with Cornwall Council’s recorded recycling rate, this includes wood sent for biomass energy recovery.

TASK #4 Increase community initiatives that support household waste reduction, increasing household waste re-use, recycling and composting.

CASE STUDY

Education programmes at Cornwall energy recovery centre and Bodmin materials recycling facility

Now in its second year of operation, the visitor centre at the Cornwall energy recovery centre, together with the longstanding visitor centre at Bodmin materials recycling facility, continue to grow in popularity, hosting a combined 2,997 visitors in the 2018-2019 contract year.

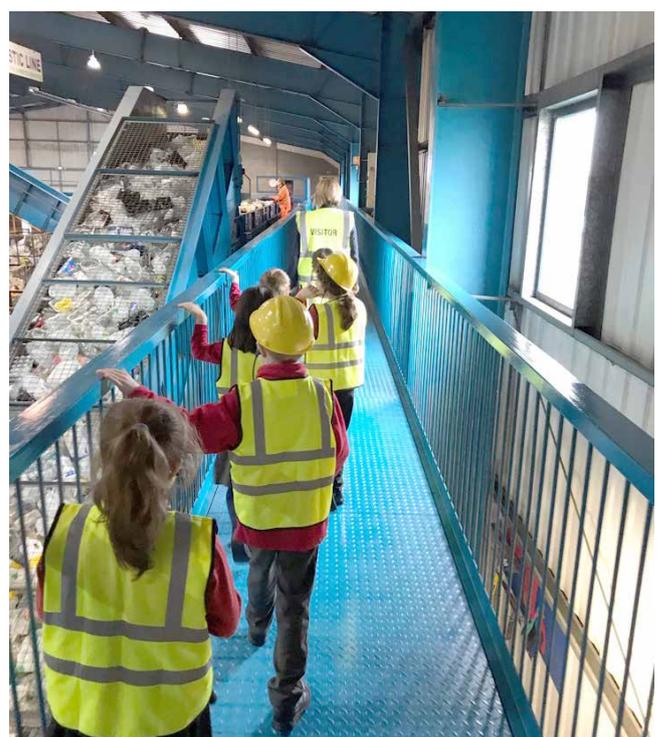
The educational programmes at the energy recovery centre focus on teaching students about the waste hierarchy, emphasising the role of the individual and explaining the importance of reducing and reusing as much as possible. Students play the four R's game, competing against one another to solve sustainability questions and be the first team to spell out reduce, reuse, recycle or recover. At the end of each visit, students are asked to apply what they have learned by thinking of a small way to reduce, reuse or recycle more and to pledge to make that change.

The programmes at the Cornwall energy recovery centre are designed to work hand in hand with the visitor centre at Bodmin materials recycling facility, providing visitors with a thorough understanding of what happens to waste after it leaves their homes and sharing tips on how to reduce their impact.

The Bodmin visitor centre hosted 1,697 visitors this contract year.

Our education team in Cornwall also visit local schools and work on different waste minimisation and education initiatives throughout the year, including:

- ▶ Supporting St Petroc's Primary School's efforts to achieve Eco School status.
- ▶ Visiting Eco Warrior after school club at Nanpean School.
- ▶ Donating compost and re-use materials for several school garden projects.
- ▶ Supporting Perranporth Primary School with termly 'walk to school' litter picks.



TASK #2 Increase the proportion of waste reused.

CASE STUDY

Partnering with St Blazey Recycle, Reuse and Resale CIC

In June 2018, SUEZ began working with Cornwall Councillor Pauline Giles who opened the St Blazey Recycle, Reuse and Resale Community Interest Company (CIC).

The CIC noticed that many of the household items discarded at local household waste recycling centres were still fit for purpose and wanted to find a way to reduce this waste and help families in need. Hoping to find a solution, contact was made with David Palmer-Jones, Chief Executive Officer of SUEZ recycling and recovery UK, asking to work together on the problem.

Six months after that initial contact, David Palmer-Jones and John Scanlon, Chief Operating Officer – Operations of SUEZ recycling and recovery UK, drove to the grand opening of the St Blazey Recycle, Reuse and Resale Community Interest Company in a newly liveried box van which was then donated to the shop, complete with a tail lift which will allow for wider and heavier collections and distribution.

Now officially open for business, the shop collects moderately-used household items from the household waste recycling centres at St Austell, Cannon Bridge, Bodmin and Newquay and puts them back into use through resale or donation to families and individuals in need. To facilitate collection, SUEZ has provided dedicated containers for the items to be stored on each site and offered training for staff on the new processes and how to identify items for re-use. To date, the partnership has helped divert 60 tonnes of household items away from landfill, putting them back into use in Cornwall, and the shop has now moved into a bigger warehouse to accommodate the growth in popularity.



The St Blazey Recycle, Reuse and Resale shop has now partnered with St Petroc's and Cosgorne Hall, two local charities that are working to end street homelessness in Cornwall, by providing gently-used furniture and home goods for residents. The shop works with the charities to identify a 'wish list' of items needed and then shares the list with SUEZ staff at the household waste recycling centres, who usually fulfil the wish list within a few short days. Staff on site report that they feel proud when they have helped find a requested item, knowing that they have helped a local resident in need.

The initiative has plans to expand across Cornwall to other household waste recycling centres, reaching more people and salvaging more pre-loved items from disposal. The shop plans to have a café on site, allowing visitors to enjoy a coffee or tea while browsing the wares and, eventually, acting as an NVQ training kitchen to help locals in need find employment. In the future, there are further aspirations to build a community room to host upcycling classes, encouraging even more creative re-use.



CASE STUDY

Supporting plastic re-use project for Remembrance Day

In November 2018, SUEZ staff at the materials recycling facility in Bodmin jumped at the chance to help with a plastic re-use project run by the CHAOS Group (Community Helping All of Society) by supplying several bags of recycled bottles.

The project required 700 plastic bottles, which were then used creatively to make a poppy display honouring fallen soldiers for Remembrance Day. The displays were placed around Truro and on the CHAOS Farm in Roseland.

Showing even further commitment to sustainable re-use, CHAOS Group plans to reuse the poppies as Christmas decorations and then to repaint them as spring flowers.



↑ IAN BROAD, SITE MANAGER FOR BODMIN MATERIALS RECYCLING FACILITY, AND KENSA CARNE, ENVIRONMENTAL LEAD FOR CHAOS GROUP



TASK #4 Increase the proportion of household waste recycled or composted.

CASE STUDY

Food and drink carton recycling at household waste recycling centres

Each year, an estimated 450 tonnes of beverage cartons are put out for collection along with black-bag waste in Cornwall. Although they are made of recyclable materials, primarily paper and aluminium, beverage cartons require specialist machinery to recycle and so were previously sent for energy recovery at the Cornwall energy recovery centre.

In December 2018, Cornwall Council partnered with the Alliance for Beverage Cartons and the Environment (ACE UK) to introduce a two-year food and beverage carton recycling trial at seven SUEZ-operated household waste recycling centres across Cornwall – Connon Bridge, Falmouth, Helston, Launceston, St Austell, St Erth and United Mines.

SUEZ staff at the household waste recycling centres have been trained on this new service and help transport any material collected to the ACE UK specialist facility for further processing. The bring banks accept a range of cartons, including soup, juice and coffee cups.

In the 2018-2019 contract year, this new recycling pilot has helped divert 4.4 tonnes of additional material away from landfill and recovery, moving upwards on the waste hierarchy and preventing contamination of other recyclable materials. With the success of the trial so far, SUEZ and Cornwall Council hope to extend the service to four additional household waste recycling centres in the near future.



← GEORGE EUSTICE, MP FOR CAMBORNE AND REDRUTH, AND SUE JAMES, FORMER CORNWALL COUNCIL PORTFOLIO HOLDER FOR ENVIRONMENT AND PUBLIC PROTECTION

TASK #5 To provide safe, efficient and reliable services to manage waste materials generated by residents and to provide residents with services that balance their needs and aspirations.

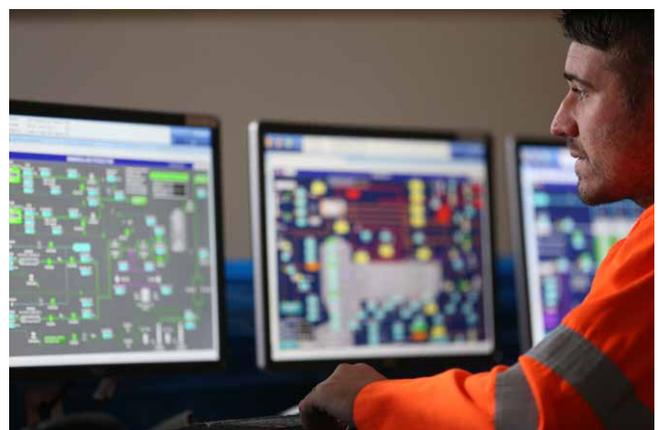
CASE STUDY

Environmental management system performance and data

The Cornwall energy recovery centre was designed to satisfy the European Union's Industrial Emissions Directive. To meet the stringent standards set by this directive, any gases produced during the process are sent through a rigorous, multi-stage treatment and filtration process so that what comes out of the chimneys at the end is primarily steam, oxygen, nitrogen and carbon dioxide with a low level of pollutants that are well within the levels set by the permit granted by the Environment Agency.

In the 2018-2019 contract year, the two lines at Cornwall energy recovery centre were operational for 14,312 hours combined. Throughout these hours, emissions remained within the daily permitted levels. On 26 occasions, emissions briefly rose above the half-hourly limit but remained well within the daily limit as our operators quickly stepped in to make adjustments and bring the levels back into compliance. Twenty-two of these occasions were carbon monoxide emissions, while the rest were isolated exceedances of limits for total organic carbon, sulphur dioxide, and particulates. Elevated carbon monoxide levels occur with incomplete combustion of waste and action by the operator is required to ensure the correct mixture of waste, oxygen temperature and combustion time.

A table showing the permit limits for emissions from the facility and the daily average emissions for the 2018-2019 contract year can be found in appendix nine. Monitoring is also published on our website (www.suezcornwall.co.uk) and regularly updated.



TASK #6 To provide services which maintain a clean and attractive public realm, seeking to reduce fly tipping and litter.

CASE STUDY

Beach cleans and community litter pick

The SUEZ team in Cornwall feel passionate about helping to reduce the quantity of marine pollution and have committed to holding at least two community beach cleans per year. These beach cleans are part of the global #SUEZ4Ocean campaign which aims to mobilise local teams to clean up beaches and watershed areas to prevent plastic and litter from entering the ocean.

In September 2018, a team of SUEZ Ocean Guardians volunteered to join with members of the community to clear 10 large bags of litter from Par Beach, near St Austell in Cornwall. The team completed a second beach clean at Perranporth Beach in March 2019, with 30 volunteers collecting 15 full bags of litter. Utilising their expertise in waste management, SUEZ was then able to separate out recyclable materials and make sure that the waste was treated as a valuable resource.

Later, the team worked with St Dennis Parish Council to help with a litter pick of the local area. Aided by SUEZ volunteers and donated litter pickers, the group collected seven bags of litter from the parish area.





creating social value in Cornwall



Funding for local community projects

At SUEZ, we strive to be an active and positive influence in the communities that we serve. In the 2018-2019 contract year, over £359,000 in funding was donated to local community initiatives through the independently-run SITA Cornwall Trust and, through Cornwall Energy Recovery Limited, the St Dennis and Nanpean Community Trust.



SITA Cornwall Trust

As a landfill operator in Cornwall, we are able to direct a portion of the landfill tax we pay towards eligible projects in the community. The SITA Cornwall Trust was established to distribute funds generated through the Landfill Communities Fund to projects that will provide essential social and environmental benefit to communities throughout Cornwall.



In the 2018-2019 contract year, SITA Cornwall Trust funded 11 projects throughout Cornwall for a total of £297,500. Projects focused on building social value by creating communal spaces and recreational areas where local residents can engage with one another.

Notable projects included:

- ▶ £35,000 for a new skate park in Camelford.
- ▶ £30,000 for renovations to Lelant Village Hall.
- ▶ £20,000 for a new community room for Callington Church.
- ▶ £17,500 for new cricket nets for Hayle Cricket Club.
- ▶ £12,500 for a toddler play area for Cubert Park.

As waste continues to be diverted in favour of more sustainable options, like recycling and recovery, the amount of landfill tax paid into the Landfill Communities Fund is

steadily declining. As we are no longer operating any landfills in Cornwall, the SITA Cornwall Trust will be winding down operations in autumn of 2019 and is no longer accepting applications.

As part of the Landfill Communities Fund, the Trust has been operating in Cornwall since 1997 and has provided more than £12.9 million in funding to 595 projects, positively impacting over 199 communities in its 22 years of operation. SUEZ began funding the Trust after taking over landfill operations in Cornwall in 2007 and has since contributed over £5 million to local projects throughout the county.

While it is sad to reach the end of the Trust, we are immensely proud of the impact it has had over the last decade and of having achieved the end of landfill for Cornwall's household waste. Moving forward, funding for community projects will continue to be distributed to local initiatives through the St Dennis and Nanpean Community Trust.



St Dennis and Nanpean Community Trust

Jointly funded by Cornwall Energy Recovery Limited and Cornwall Council, the St Dennis and Nanpean Community Trust was established to promote health, wellbeing and environmental protection in the communities surrounding the Cornwall energy recovery centre.

The Trust receives a fixed percentage of revenue from electricity generation, estimated to be around £100,000 per year during the operational life of the Cornwall energy recovery centre. Although energy generation was stopped from June 2018 to April 2019 due to a fault in the turbine, Cornwall Energy Recovery Limited has continued to make payments to the Trust.

In the 2018-2019 contract year, the St Dennis and Nanpean Community Trust provided £62,243 of funding for 12 projects in the area surrounding the Cornwall energy recovery centre.



Highlights included:

- ▶ £24,166 for a new minibus for St Dennis Primary Academy, Truro and Penwith Academy Trust.
- ▶ £6,350 for ClayTAWC (Clay Area Training and Work Centre) to provide training courses on the Cornish language, flower arranging and photography.
- ▶ £3,450 for Young People Cornwall to deliver outreach work at St Dennis Park.
- ▶ £1,000 for St Dennis Art Group to set up a beginners art class.
- ▶ £800 for Christmas meals and transportation for the St Dennis Over 70's Group.

Investing in Cornwall's workforce

After two years of operation at the Cornwall energy recovery centre, in January 2019 the energy team at SUEZ welcomed their first further education work placement student from the EAL Level 2 electrical engineering course at Cornwall College. The student worked alongside staff at the energy recovery centre, receiving on-the-job training which will provide valuable experience and aid in securing an apprenticeship in the future.

Recognising the importance of investing in and growing a local workforce, the team at the Cornwall energy recovery centre also welcomed two new apprentice administrators to the team, in addition to the two apprentice energy-from-waste technicians who are now halfway through their four-year apprenticeship.

Encouraging healthy workplaces

In partnership with Cornwall Council's Healthy Workplace programme, SUEZ hosted two healthy workplace seminars at the Cornwall energy recovery centre, welcoming 80 attendees from businesses across Cornwall who are working towards achieving the Cornwall and Isles of Scilly Healthy Workplace Award. Attendees learned new ways to encourage physical and mental wellbeing at work, sharing best practices and ways to promote a healthy lifestyle amongst colleagues.



→
LEE BUTLER, FIRST
FURTHER EDUCATION WORK
PLACEMENT STUDENT
AT THE CORNWALL
ENERGY RECOVERY CENTRE



Volunteering in the community

This year, SUEZ teams across Cornwall joined together to support a number of different local causes by raising money, volunteering their time or collecting goods to donate. Highlights of voluntary initiatives from the 2018-2019 contract year included:

- ▶ In June 2018, we hosted a Family Fun Day at the Cornwall energy recovery centre, inviting the local community to join SUEZ staff and their families for a barbecue and walk to raise money for Macmillan Cancer Support.
- ▶ In July 2018, SUEZ and the Green Waste Company worked together to support the Chelsea Fringe Festival by donating suitcases and bags of compost to local schools. The materials were used to create a garden display at the White River Centre in St Austell.



↑ SUEZ STAFF AT THE FAMILY FUN DAY

- ▶ In August 2018, staff at Bodmin materials recycling facility worked together to raise money and saved up the profits from the vending machine on site to donate £400 to Bodmin Hospital League of Friends.
- ▶ In December 2018, employees partnered with the Cornwall Christmas Box charity, an initiative of Truro Vineyard Church, to raise money and put together 30 holiday boxes packed with non-perishable items like tins of meat and vegetables, gravy granules, stuffing and mince pies – everything you need for a Christmas dinner.
- ▶ In March 2019, the team at the Cornwall energy recovery centre participated in Pirate FMs 'Tonnes of Tins' appeal, organising an office collection and donating 79 tins of food for local food banks to help support struggling families across the county.



↑ RECYCLED SUITCASE GARDENS AT CHELSEA FRINGE



↑ SUEZ STAFF WITH THEIR DONATIONS TO THE CORNWALL CHRISTMAS BOX CHARITY



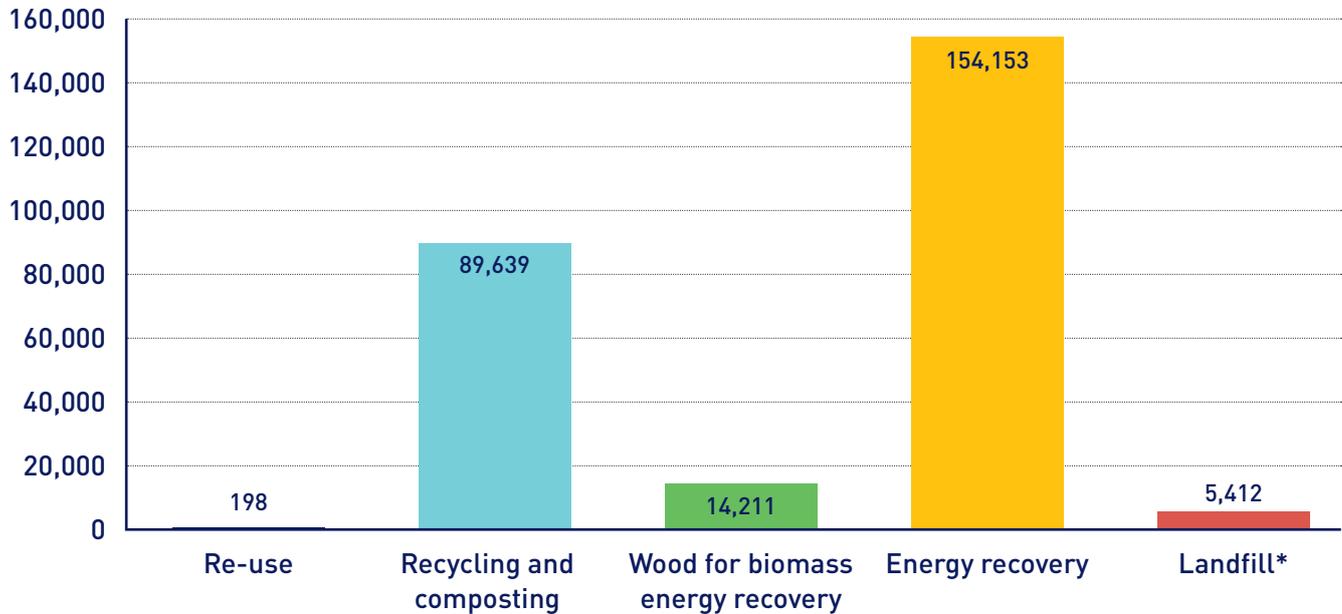
↑ IAN BROAD, SITE MANAGER OF BODMIN MATERIALS RECYCLING FACILITY, PRESENTS A DONATION TO DAVE JENKINS, VICE CHAIRMAN OF THE LEAGUE OF FRIENDS

appendices

All appendices use 2018/2019 contract data.

Appendix one

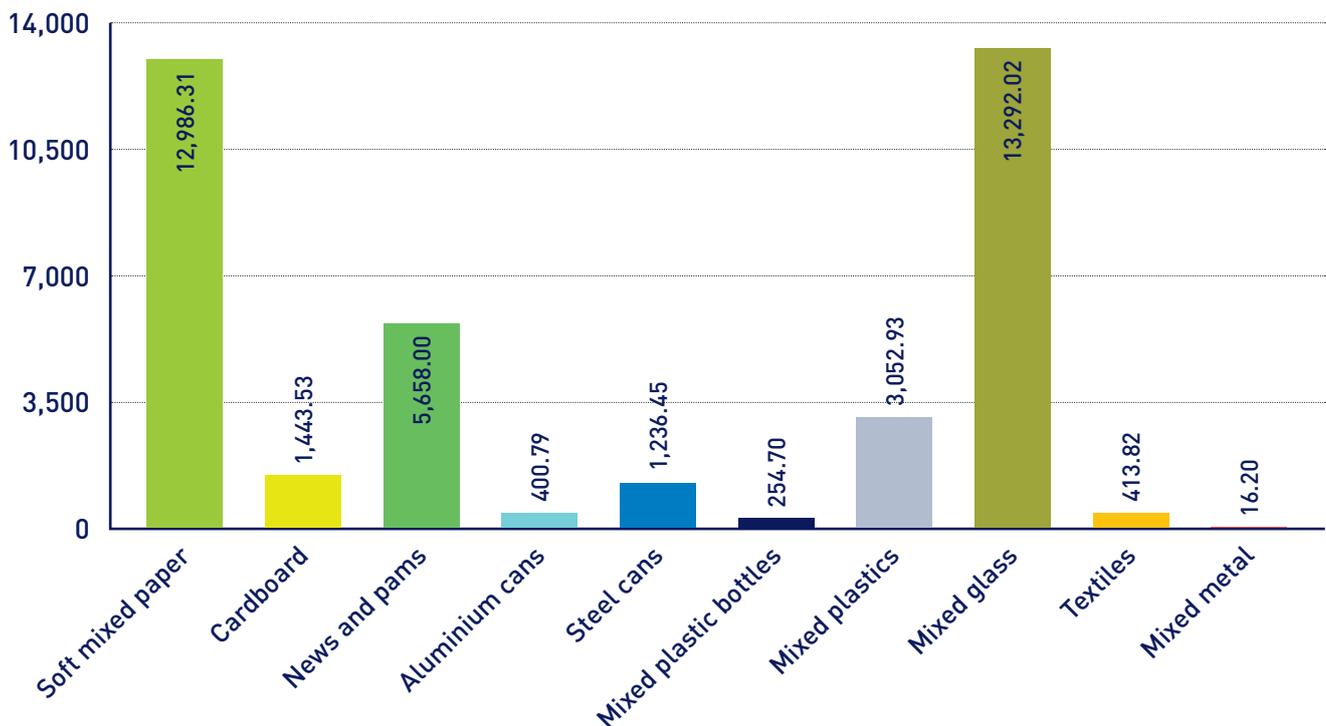
How we processed Cornwall's household waste (tonnes)



* 4,134 tonnes of bulky waste was sent to landfill while the shredder operation at Connon Bridge was gradually phased in beginning in late April 2018. Later, during the turbine installation and recommissioning in February and March 2019, a further 1,278 tonnes of waste was temporarily diverted to landfill to allow for necessary repairs to the surrounding pipework. Overall, this is an 83% reduction in waste sent to landfill from the 2017-2018 contract year.

Appendix two

Materials separated for recycling at the materials recycling facilities (tonnes)



Appendix three

Recycling at the household waste recycling centres

	Recycling rate
Bodmin	46.97%
Bude	53.01%
Connon Bridge	49.25%
Dudnance Lane	79.39%
Falmouth	51.11%
Helston	53.17%
Launceston	55.05%
Newquay	43.67%
Saltash	47.85%
St Austell	48.38%
St Erth	52.29%
Tintagel	50.56%
United Mines	43.81%

Appendix four

Customer satisfaction at the household waste recycling centres

	Customer satisfaction rate
Bodmin	94.2%
Bude	96.9%
Connon Bridge	94.5%
Dudnance Lane	94.0%
Falmouth	95.8%
Helston	96.1%
Launceston	96.2%
Newquay	98.2%
Saltash	96.0%
St Austell	98.1%
St Erth	95.7%
Tintagel	96.5%
United Mines	98.7%

Appendix five

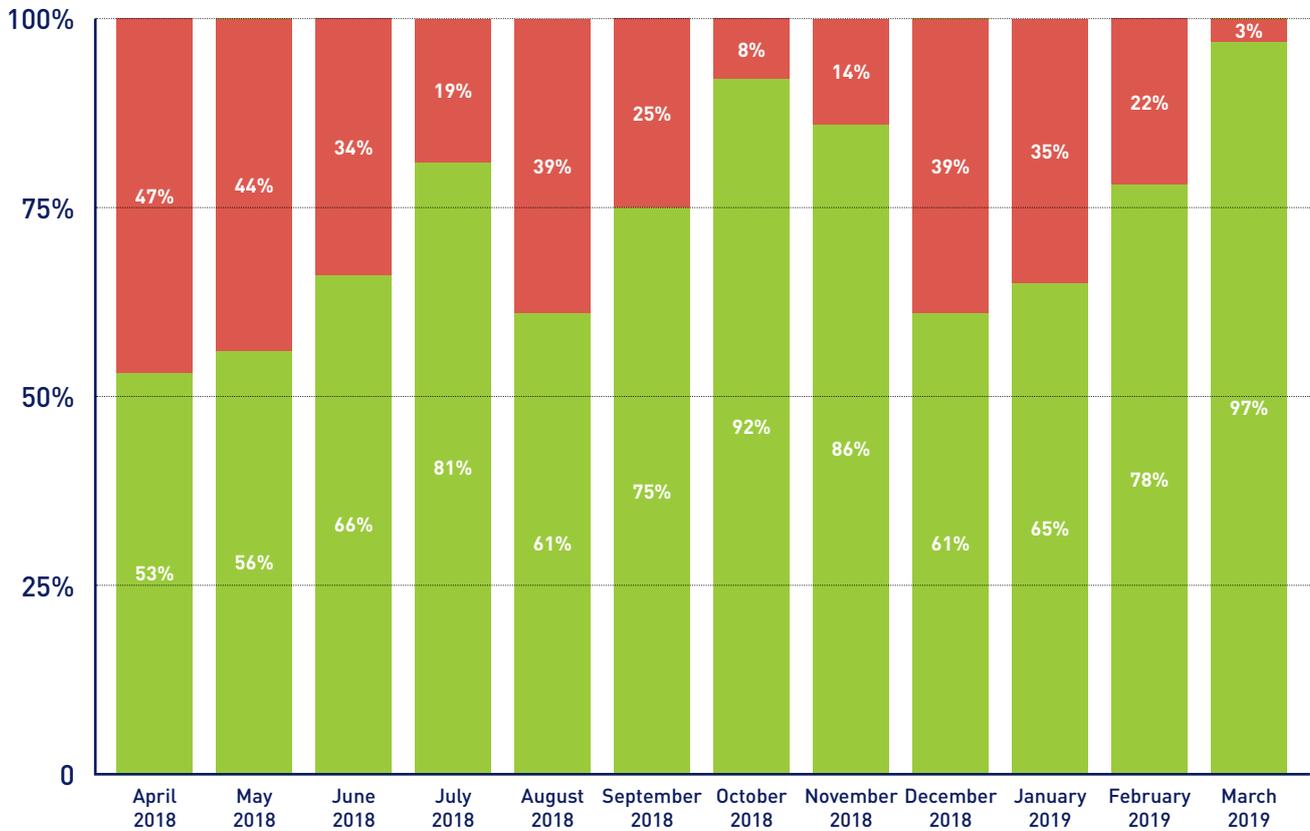
Visits to our visitor centres

	Total number of visitors	Total number of visits	Total number of school visits
Bodmin materials recycling facility	1,697	73	47
Cornwall energy recovery centre	1,300	76	28

Appendix six

Household and business waste processed at the Cornwall energy recovery centre

■ Contract waste
■ Non-contract waste



Appendix seven

Energy generated for export to the National Grid by the Cornwall energy recovery centre (megawatt hours)



Unfortunately, a fault in the turbine at the energy recovery centre meant that energy generation was temporarily halted from June 2018 to April 2019 to allow for specialist engineering works and recommissioning.

Appendix eight

Cornwall energy recovery centre outputs

	Incinerator bottom ash (tonnes)			
	Aggregates to recycling	Metals to recycling	Residue to landfill	Total
April 2018	4,394.5	537.1	0.0	4,931.7
May 2018	5,880.8	750.7	0.0	6,631.5
June 2018	2,233.8	809.8	0.0	3,043.7
July 2018	2,544.7	631.8	0.0	3,176.5
August 2018	7,401.0	849.5	0.0	8,250.4
September 2018	113.5	46.3	0.0	159.8
October 2018	252.0	48.7	0.0	300.6
November 2018	3,531.0	702.9	0.0	4,233.8
December 2018	4,672.6	912.9	0.0	5,585.5
January 2019	3,932.0	839.1	0.0	4,771.1
February 2019	4,267.4	690.2	0.0	4,957.6
March 2019	1,326.1	338.0	0.0	1,664.1

Air pollution control residue to landfill (tonnes)	
April 2018	640.6
May 2018	612.6
June 2018	455.2
July 2018	422.2
August 2018	602.5
September 2018	272.5
October 2018	397.5
November 2018	298.5
December 2018	592.9
January 2019	634.9
February 2019	508.4
March 2019	310.3

Appendix nine

Cornwall energy recovery centre
permit limits and average daily emissions

	Permit limit	Line one	Line two
	Daily average per line (mg/m ³)	Daily average (mg/m ³)	Daily average (mg/m ³)
Particulates	10	0.41	0.44
Carbon monoxide	50	7.8	5.23
Sulphur dioxide	50	13.02	11.02
Hydrogen chloride	10	6.09	6.3
Oxides of nitrogen	200	137.59	141.63
Total organic carbon	10	0.25	0.3
Ammonia	10	0.05	0.04
Hydrogen fluoride	1	0.17	0.16



What are the emissions?

Particles

Particles, also called particulates, are formed during the combustion process. These are captured in bag filters and form part of the air pollution control residue (APCR) which is sent for disposal off site in sealed containers.

Carbon monoxide and VOCs as total organic carbon

High temperatures, a good mix of waste and sufficient air are all needed to achieve complete combustion and limit the formation of carbon monoxide and total organic carbon.

The temperature of the furnace is carefully controlled and additional burners can be used to bring up the temperature if it starts to drop.

A good mix of waste is achieved, initially using the grab in the bunker, but also on the moving grate in the furnace which keeps the waste moving throughout combustion.

The air flow into the furnace is controlled using fans alongside and underneath the grate.

Sulphur dioxide, hydrogen chloride and hydrogen fluoride

Many of the things we throw away, including batteries and plastics, contain either sulphur, chlorine or fluorine. These are released during combustion and react with the air to form sulphur dioxide, hydrogen chloride and hydrogen fluoride.

We use hydrated lime and lime slurry to neutralise these gases and convert them into a solid which can be captured in the bag filters. This excess lime, particulates, salts and carbon dust make up the air pollution control residue, which is sent for disposal off site in sealed containers.

Oxides of nitrogen and ammonia

Whenever anything is burnt in air, oxides of nitrogen are formed – this is because the air we breathe is made up of nitrogen (78%) and oxygen (21%) which combine during combustion. Nitrogen dioxide and nitrogen monoxide are known as oxides of nitrogen or NO_x.

To control these in the combustion process, we inject ammonia into the furnace, which reacts with the oxides of nitrogen to produce nitrogen and water.



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