Climate Action & Sustainability for Community Residential Healthcare

GreenHealthcare

epa Environmental Protection Agency

HSE Capital & Estates
Climate Action & Sustainability Office

www.greenhealthcare.ie

About the HSE Capital & Estates Climate Action & Sustainability Office

The HSE Capital & Estates Climate Action & Sustainability Office focus is on reducing emissions from Health Service buildings and supporting actions to achieve climate action goals. The office is responsible for implementing the actions of the HSE's infrastructure Decarbonization Roadmap and supporting a number of key programmes including the Estates Energy Bureau, Shadow Retrofit, Energy Efficient and TCZ Design, Deep Energy Retrofit Pathfinder and Green Healthcare (Waste Reduction and Water Conservation) Programmes.

The Green Healthcare programme is funded by HSE Capital & Estates through the Climate Action & Sustainability Office. The Climate Action & Sustainability Office works with Irish hospitals to conserve water, reduce healthcare risk waste, reduce food waste, increase recycling, improve energy efficiency and reduce carbon emissions.

The Green Healthcare programme works with all HSE facilities to provide advice and assistance in the area of sustainability.

For more information have a look at the HSE's Climate Action & Sustainability Office website **www.hse.ie/sustainability** and the Green Healthcare Programme website **https://greenhealthcare.ie/**

About this Guide

This guide provides guidance on how to improve sustainability in Community Residential Healthcare Centres, with a focus on Water Conservation, Waste Prevention and Energy Efficiency. It also outlines how to establish a Green Action Plan – an essential part in ensuring sustainability projects are properly resourced and implemented. The guide provides specific information on how your facility can measure, monitor and benchmark the water and energy consumed, and the waste produced. This will help you target and measure any progress made in your facility. There are practical actions and tips throughout the guide that your facility can adopt to improve resource efficiency and in doing so improve sustainability.

Introduction

Community Residential Healthcare facilities, just like any commercial business have an effect on the environment through the consumption of energy like electricity, oil and gas, use of water and materials, and production of various wastes.

How these buildings are run has an effect on the use of all these resources, and in turn determines how much they are costing the business. By being more 'resource efficient' you can optimise your usage and minimise your costs, without having any effect on the desired level of service for your residents.

This guide aims to help you to run a greener, and more cost efficient, Community Residential Healthcare facility.

This guide has been prepared under the Green Healthcare programme – an initiative funded by the Health Service Executive (HSE).

Getting Started

One of the first, and most important steps is to put a formal Green Action Plan in place. Healthcare facilities are busy places and, without a formal plan in place, improving resource efficiency can easily be forgotten.

There are a number of steps involved in putting together your green action plan for your healthcare facility.

1

Management Commitment

For a green action plan to work, the owner or manager must be committed to it, and be convinced that the investment of staff time and finances is warranted and beneficial. Commitment is driven by cost savings, as well as legal, environmental, and social responsibility perspectives.

6

Review Progress

Keep a regular check on progress. Review what has worked and what has not, and feed this into future actions. Tell staff and residents how the greening project is going.

5

Implement the Resource Efficient plan

Implement your chosen actions involve staff and residents.

2

Start a Green Team

A green team is a good way to manage the action plan. The green team should be a small group of employees who have influence on resources or have relevant skills or expertise. Representatives could be included from, for example, care staff, maintenance, kitchen staff, and management. Staff are essential to both implementing improvements as well as identifying potential opportunities in the first place. Once established, it is important to show support for the green team by developing a formal policy, endorsed by senior management.

3

Review and Identify

The assessment phase of the green action plan is important in order to paint a picture of 'where we are now' so that the team can plan for 'where we want to go'. When you have collected information on your energy use, water use and waste generation you will be able to develop internal indicators and compare these with national benchmarks. Identify all the potential opportunities which your nursing home could pursue from the actions suggested in this guide.

4

Prepare your Green Action Plan

From the potential opportunities identified, choose a number of actions to implement. Think in advance about what success looks like and set realistic targets that progress can be measured against.

Plan each of the actions - decide who will do what, and assign tasks and responsibilities along with implementation timeframes. Where possible, estimate expected costs and the savings for each action.

Not every action requires investment, there are often 'low hanging fruit' in terms of low or no cost actions that can be taken.

Water Conservation

Introduction

Clean water is a very important resource for all healthcare facilities. It is used all day, every day, for a variety of purposes – taps, showers, cooking, cleaning, laundry, toilets and heating. However, water can be an expensive resource if not managed properly so, in addition to ensuring quality services are provided, it is also important financially.

Unlike electricity, where the regular meter reading provides up to date information that allows monitoring of consumption patterns (provided you are not just getting estimated bills), water bills can be infrequent and provide little information other than the volumes used. Consequently, a water efficiency programme requires a step-wise approach to firstly gather the appropriate background information and secondly to address the main improvement opportunities identified.

There are 3 main parts to a water conservation programme:

1. Monitor and benchmark
Look at how much water you use on a regular basis and compare annual usage with national benchmarks.

2. Leak detection
Make sure you are not wasting water due to leaks or faulty fittings.

3. Best practice actions
Ensure that best practice equipment and procedures are used.

1. Monitor and Benchmark

How much water do you use?

Monitoring water use regularly is an important part of good water management. There are 3 main ways to monitor your water use:

1 Examine monthly/quarterly water bills and start tracking how much water you use (in m^3) and how much it costs. In order for this to be effective then your bills need to be coming in at least quarterly and the meter reads should be actual, not estimates. It can be useful to do this for previous years and to graph it so you can see it visually. For more on understanding a water bill go to: **www.water.ie/for-business/billing-explained/understand-your-bill/**

2 Find the location of your water meter(s) (you might have more than one) and take regular meter readings, e.g. weekly or monthly. Make a designated member of staff aware of where the water meter is and how to take readings. Monitoring consumption allows you to identify trends, identify irregular usage and possibly identify leaks.

3 If you are a large water user, it may be worthwhile getting a data logger installed on your meter to track and record usage. The data from these can also help verify that your water meter is working correctly.

Benchmarking

Benchmarking is an excellent method to track water use over time, or to compare one facility with others.

Obviously every site is different in terms of water services provided (e.g. some will have laundries, others may use water for landscaping). However, benchmarking your water use against others is a vital first step in any water conservation programme.

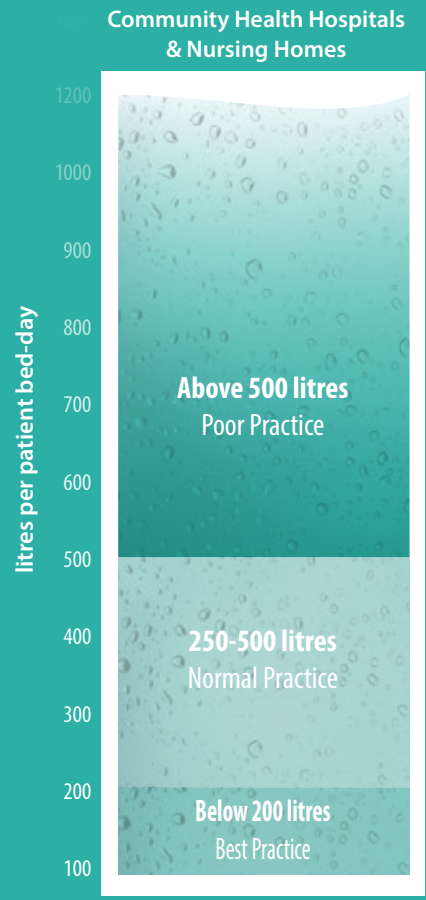
$$\frac{\text{Volume of water used } (m^3)}{\text{No. of resident bed-days (or number of beds * 365)}} \times 1000 = \text{Benchmark (litres per bed-day)}$$

* This assumes 100% occupancy which may not always be the case.

Best practice benchmarks for water usage in Irish community nursing units and nursing homes

The best practice benchmarks used here are related to those of Irish public community nursing units. These facilities are similar in nature and operation to nursing homes.

Compare your benchmark with the national best practice benchmark. How do you compare?



2. Leak Detection

The main goal of leak detection is to avoid wasting water, reduce overall expenditure and, most importantly, reduce any potential contamination of the water supply. Leaks can be difficult to detect as much of the water supply system is hidden from view. However, once a leak is detected it should be repaired straight away - they won't fix themselves and will continue to cost you money if left un-repaired.

If you have conducted the benchmarking exercise and your water use is higher than expected, then you may have a leak. However, even if your water benchmark is good, you may still have leaks on site. The easiest way to check for background water use (leaks) is to carry out a night-time test.

Night-time test.

- Take a reading from your water meter at the end of an evening, after all main water users are finished (e.g. dishwasher finished, residents retired).
- Take another reading first thing the next morning, before staff or resident activity commences in the nursing home.
- While there will always be potentially some water use in a nursing home at night, usage should essentially drop to little or zero.
- If there is any significant difference between the two readings, you probably have a leak.

Sample Table

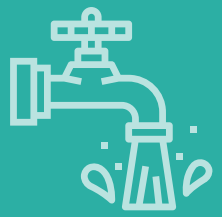
METER READING 1	9pm Tuesday – 34566m³
METER READING 2	7am Wednesday – 34584m³
THE DIFFERENCE This is your background water use	= 18m³
COST OF WATER (PER M³)	x €3.12*
COST OF WATER PER NIGHT	= €56.00 x 365
COST OF NIGHT TIME WATER USE EACH YEAR	= €20,500

Charges since October 2021 for Band 2 use: 1000 - 19,999 m³ per year.
See www.water.ie for other bands.

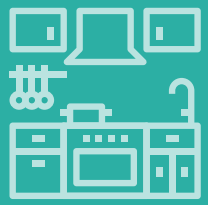
Template for calculating costs of background water use

METER READING 1	
METER READING 2	
THE DIFFERENCE This is your background water use	
COST OF WATER (PER M³)	
COST OF WATER PER NIGHT	
COST OF NIGHT TIME WATER USE EACH YEAR	

3. Actions for Water Conservation Actions



Measure the flowrates of all your taps. This can be done with a kitchen measuring jug and timer on your phone. These should then be compared with best practice values. *



Kitchen – fit a trigger-operated pre-rinse spray head in the wash-up area. Low flowrate models are available, that use only 2.5 to 5 litres per minute.

For showers with higher flowrates, fit replacement showerheads to reduce flowrates to 6 - 8 litres per minute. There are low- flow showerheads specifically designed for the healthcare sector for ease of sterilisation. Some of these have inserts that can be changed instead of sterilising the complete head.

If you have identified possible leaks in your system, the best option is to hire a leak detection company. Leaks don't fix themselves and will likely only get worse with time.

For those bathroom taps with higher flowrates, fit laminar flow aerators to reduce flowrates to 2 – 4 litres per minute. Start with those taps likely to be in most frequent use. Kitchen taps can similarly be reduced to 6 – 8 litres per minute.

Toilets - Install dual-flush systems or reduce flush volume using water displacement devices.

When purchasing new equipment, buy products that are water and energy efficient or 'A' rated. For example, modern dishwashers can use as little as 9 litres per wash cycle.

Tap controls, like timed push taps and sensors, can save water. There are also hygiene benefits. Such taps do need to be set up carefully and subsequently maintained.

Measure the flowrates of all your shower heads and compare with best practice values. *

Remember! Typically hot water costs up to five times that of cold water. With legionella flushing schedules, this can be a significant expense.

Harvest rainwater for outside use, such as gardening, vehicle and bin washing and general cleaning.

*** For more information please see the Green Healthcare Water Conservation Guide at https://greenhealthcare.ie/resource/**

Waste Prevention

Introduction

Healthcare facilities are generally quite good in their management of waste. This is related to the fact that they deal with the same types of wastes each day. That said there is always room for improvement and this is especially important with the increasing costs of waste disposal.

Waste disposal costs vary depending on the bin that materials end up in so making sure that wastes go in the correct bin is very important.

€1,213/tonne Healthcare Risk Waste Sterilisation	**€160–€240 /tonne** General Waste*/Energy Recovery
€120-€180/tonne Food Waste	**€0–€200/tonne** Recycling

* Including for energy recovery

Of course, preventing waste being generated in the first place is the best, and most cost effective, way of dealing with waste. However, in order to do that you will need some background information before putting waste prevention actions in place.

The main steps in a waste prevention programme should include:

1. Monitor and benchmark
Look at how much waste you produce annually and compare this with national benchmarks

2. Investigate
Examine how bins are used around the site and how other waste management infrastructure (e.g. signage, waste management area) is functioning

3. Waste prevention actions
Implement actions to reduce the amount of waste you produce in the first place

1. Monitor and Benchmark

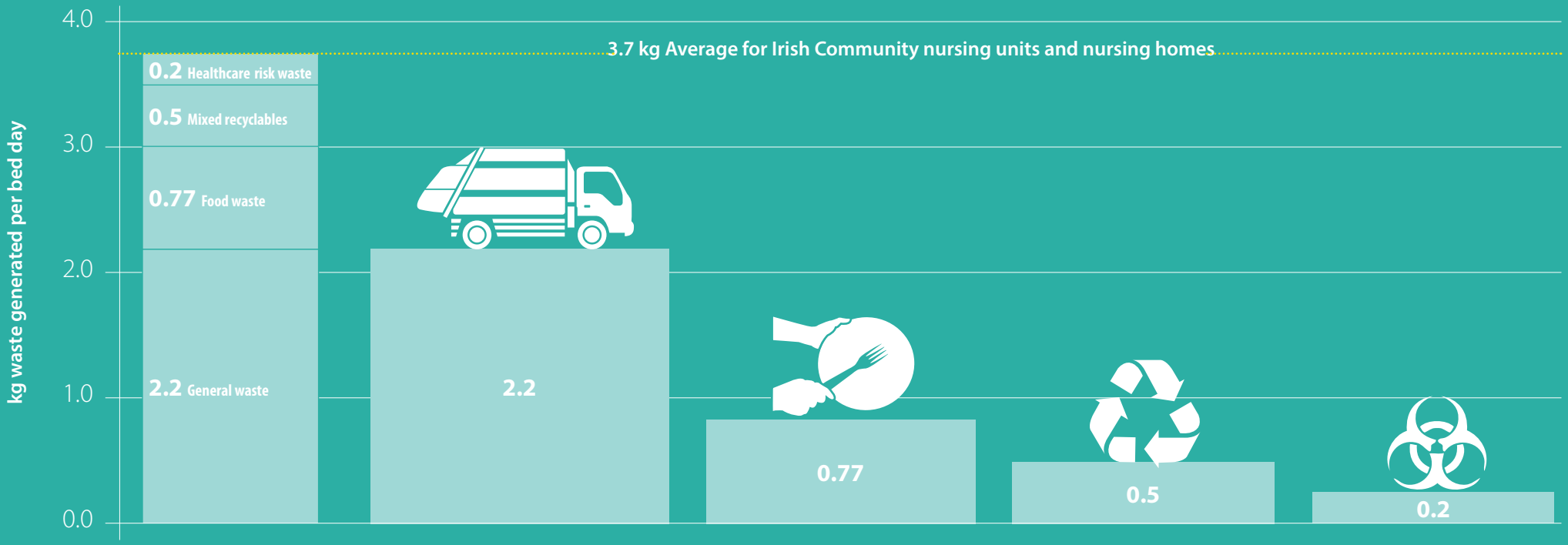
As with any business cost, it is always good to analyse bills. Waste bills can be confusing and, while they should include weights, many don't. If your bills don't currently report the weights of your wastes then contact your waste contractor and ask them to include these details.

Once you have this information for the different waste streams you can calculate your waste benchmark. Similar to water, waste benchmarks use patient bed days as the standard way to compare different sites.

$$\frac{\text{Tonnes of waste*}}{\text{No. of resident bed-days}} = \text{Waste Benchmark}$$

* This can be annual quantities of food waste, general waste or recyclables

The following shows the national benchmark for community nursing units and nursing homes. General landfill waste is the largest contributor followed by food waste, recyclables and finally clinical waste.



Breakdown of average

General waste
It has been found that 16% of general waste in a Community Nursing Units and nursing homes is recyclable materials. In addition, 17% is food waste. Through better segregation of both of these, general waste volumes could be reduced by 35% with potential to save €1,000 - €2,000 annually per facility.

Food waste
While the disposal of food waste can be costly the real cost associated with food waste is the purchasing cost of the food that becomes waste. It has been found that these costs range between €2 - €5 per kilogramme (this varies based on high values for meat down to cheaper prices for the likes of porridge and bread). By taking your annual food waste weights and multiplying it by, for example, €2, you can get a rough approximation for the purchase cost of food that is wasted.

10,000 kg of food waste per year
X
€2/kg
= €20,000 food purchases lost to waste

Mixed recycables
Proper segregation of recyclables can be tricky, especially in areas where visitors and/or residents are using bins. Clear signage with appropriate pictures is essential for this purpose. Bin signs are available for download at **Greenhealthcare.ie**

Healthcare risk waste
Even though this waste stream is the smallest volume of waste generated by community nursing units and nursing homes because of its high cost of disposal it is important that only the correct wastes go into it. Typically, 35% of healthcare risk waste is actually not healthcare risk waste. 19% was clean packaging and 15% was non-contaminated waste (e.g. incontinence wear). Through improved segregation it has been estimated that annual savings of between €2,000 - €6,000 are achievable.

2. Investigate

A focus on food waste

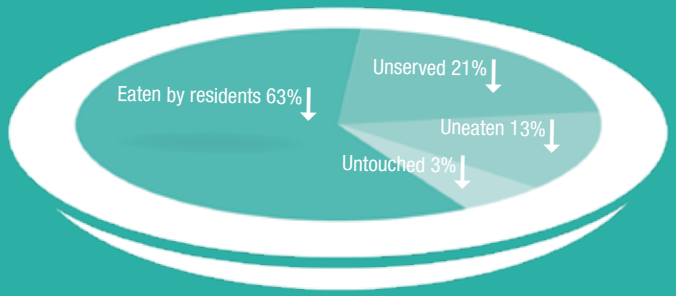
Food waste has been a key focus of the Green Healthcare programme due to the high costs associated with it. It has been found that only 63% of the food produced in community nursing units and nursing homes is eaten by patients.

The other 37% consists of:

21% unserved food - food which has been prepared but has not been served to residents, for example, food remaining in bain-maries after service.

13% plate waste - food which has been served to residents, but which they did not eat.

3% untouched - food that has been plated up but wasn't touched at all. Usually related to residents feeling unwell or difficulty in feeding themselves.



Obviously, every community nursing unit and nursing home will be different so to get a better understanding of your own food waste work with staff to separate food waste in the kitchen for a week, weighing the amounts according to the three types above. Certain types of food waste have no monetary value, for example bones, vegetable peelings. However, much of it does have value, and this is the type of food waste which should be focussed on.

Bins and bin signage

In order to ensure that your nursing unit manages the wastes it produces effectively, all materials need to go in the correct bins.

While this can be challenging it is essential that clear and consistent bin signs are used across the site to help residents, staff and visitors.

YOU SHOULD PROVIDE CONSISTENT AND WELL-LABELLED BINS THROUGHOUT YOUR FACILITY TO ALLOW SEGREGATION OF RECYCLABLES AND FOOD WASTE, FROM GENERAL WASTE.

Bin signs, similar to those shown here, are available for download at **Greenhealthcare.ie**

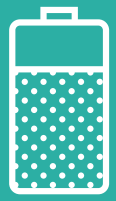
It is also important that your external waste management area is well laid out with clearly labelled bins that are easy to access. Poorly laid out waste management areas lead to the wrong wastes going in the wrong bins. Ask your waste contractor for assistance on this.

3. Waste Prevention Actions

Regardless of what waste is generated, always consider the waste hierarchy - can the waste be prevented in any way? If not, can it be reused or recycled? Ideally disposal should be the last resort.

Manage portion sizes – are meat/fish portions measured? Are measured scoops used for foods like potatoes and vegetables? Are staff trained on typical portion sizes? Do staff give feedback on what dishes and sides are popular and unpopular with residents?

Use double sided printing as the default setting on all computers and printers.



Use rechargeable batteries, wherever possible. A lot of batteries are used in TVs and other electronic items.

Look at how your meal ordering system works. How are the number of meals determined – e.g. is there a verbal or written menu? Are extra meals ordered for 'safety'? How does the kitchen forecast the amount of food to be cooked?

Quantify paper use and printing quantities and take steps to minimise paper consumption. e.g. default setting printers to double sided.

Where possible use electronic means of communication. If attaching documents try and minimise file size.

Work with main suppliers to minimise packaging, e.g. your main suppliers of food.

Provide separate food waste bins in the kitchen/dining areas. This is the law.

Order the most sustainable paper possible, ideally 100% post-consumer recycled paper, or at least paper from a certified sustainably managed source.

Eliminate single portion condiments in favour of refillable dispensers/containers for items like sugar, salt, pepper, vinegar.

Rather than waste bins at individual desks, have a well-labelled central bin station in the office for recyclables, general and food/compostable waste. Trays can be used on desks for waste paper, etc. This action increases recycling levels almost instantly!

Energy Efficiency

Introduction

Reducing energy consumption in any business can be difficult. However, due to the nature of care provided by community residential healthcare it can be very challenging to provide a comfortable and warm environment for residents while avoiding excessive energy costs.

Like any other business, healthcare facilities use energy from multiple sources for the different needs. Typically, these will include electricity, gas, oil and possibly renewable energy sources such as heat pumps or solar/PV panels.

An important first step in reducing energy use is gaining an understanding of what areas use the most energy. Once a better understanding of these various uses has been identified, you can then begin to target key improvement opportunities.

The main steps in an energy reduction programme should include:

1. Monitor bills

2. Identify the main energy users

3. Energy efficiency actions

1. Monitor bills and Identify main energy users

One of the first things to do when looking to improve energy efficiency is to monitor your bills and benchmark your energy use. Doing this can be tricky as the different energy sources are not billed in the same units. However, most energy providers have online information on energy use, so it should be relatively straightforward to get this information. By examining this information, you can identify trends and gather information on energy use.

The next thing is to generate a benchmark for your site. This is done by adding up all the energy used (typically in kWh) and comparing it with the area of your buildings (metres squared). Though there are currently no up to date nursing home specific benchmarks to compare with, you can compare the performance of your own site from one year to the next.

$$\frac{\text{Total energy use (kWh/year)}}{\text{Area (m}^2\text{)}} = \text{Energy use Benchmark kWh/m}^2\text{/ year}$$

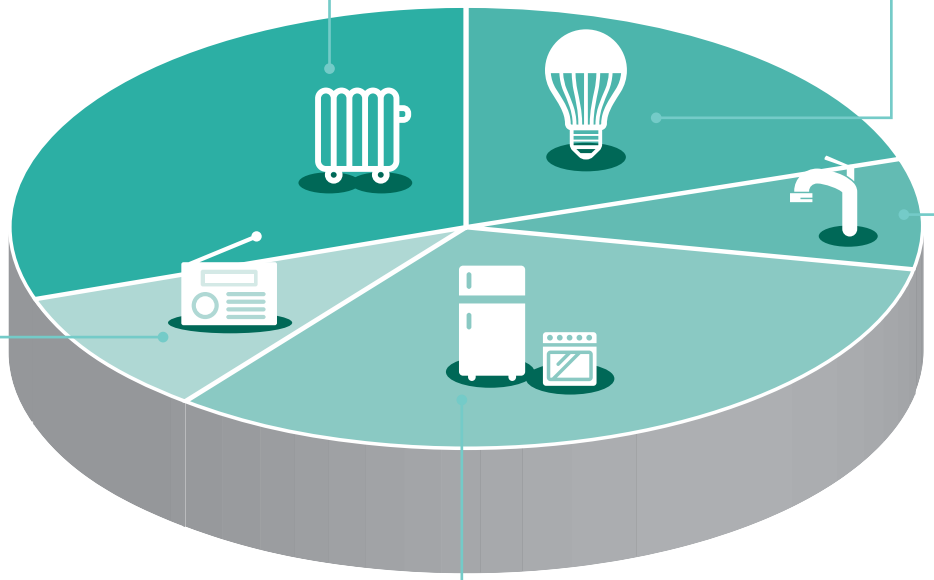
2. Identify the main energy users.

Getting exact information on the amount of energy used by different equipment can be difficult. You can estimate the energy consumed by the main users by using the rating on the equipment (energy rating (kW)) and multiplying by the typical hours in use. This will give you consumption in kilowatt-hours (kWh). Alternatively, you can meter the equipment but, you will need to discuss this with an electrician. Once you know the big users, you can take measures to control them better, turn them off or turn them down when not required.

The five main energy consuming areas (ref.) in healthcare facilities are outlined here.

1. Space heating (oil, gas, biomass) 30%
Heating is often on continually in healthcare facilities in order to maintain the consistent temperature required for the comfort of the residents. Consequently, heating costs can be the most significant energy bill. While this is a challenging area to address, especially in older buildings, there are now ways to ensure heating is provided in an effective and efficient manner (e.g. improved boiler controls, wireless room thermostats, easy to control TRVs).

2. Lighting 20%
Lighting is used extensively in healthcare facilities where it is especially important due to the nature of the service required. While the efficiency of lighting has improved dramatically in recent years, in many older buildings inefficient, high wattage bulbs are still commonplace. Improving lighting is one of the most effective ways to reduce energy costs for Irish healthcare facilities.



5. Miscellaneous use (e.g. TVs, plug-in heaters) 32%
Unlike the obvious energy users already listed, miscellaneous energy users can be a significant, yet difficult to assess cost for healthcare facilities. These may be specific to residents (e.g. plug-in heaters, TV / radio) or part of the day to day running of the site (e.g. laundry, compressed air, extraction fans).

4. Cooking and refrigeration 8%
Cooking, and the refrigeration of food, is an integral part of the day to day running of healthcare facilities. Changes such as regular maintenance and correct set up of equipment, efficient production and distribution of food can help you become more resource efficient and cut costs.

3. Hot water generation 9%
Usually on the same system as space heating, this is an area that is often overlooked. Typically, hot water costs at least five times more than cold water and, with legionella flushing schedules, this can be a significant expense.

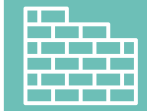
* (ref - https://www.cibse.org/getmedia/223e24dd-8561-4f2a-a51f-46a050b10cb8/ECG57-Energy-Consumption-Guide-for-Nursing-and-Residential-Homes.pdf.aspx)

3. Energy efficiency actions - making the most of what you have

The heating system

By far the largest user of energy in most healthcare facilities and nursing homes is heating. By law, bedroom areas in nursing homes must be maintained at a minimum of 18°C, and day areas at a minimum of 21°C. An efficient heating system provides a pleasant environment in an energy-efficient manner and here are some key actions to consider:

- Understand how your heating system works – this will allow you to take full advantage of built–in energy efficiency functions, including the correct setting of timers and sufficient, but not excessive, settings for temperature.
- Regularly service your boiler – this can save up to 10% of heating costs.
- Thermostats installation – these control temperature and, with modern systems (including wireless), a great degree of heating control is now possible. These can be via zones, or even on individual radiators controlling room by room. Train staff on operating such controls.
- Give careful consideration to the positioning of thermostats – for example, a thermostat next to a draughty door may result in your heating system working hard to heat a room that is warm enough.
- Installing technology controls for HVAC (heating, ventilation, and air conditioning) systems – improved controls will help optimise energy use.
- Changing staff behaviour – put a plan in place to train staff to turn off equipment when not required (e.g. ovens, fans, air conditioning, lighting, etc.). Use signage and checklists.
- Consider boiler upgrade – where boilers are old, it is worth considering replacing these. New condensing boilers will save up to 30% in heating fuel compared to an old inefficient boiler.
- Ensure radiators are kept clear – by not covering them or placing furniture in front of them.
- Consider appropriate blinds or external shading for rooms that may overheat.



Insulation and building fabric

Without adequate insulation, there is almost no point in improving your heating system (e.g. boilers, controls) as 2/3 of the heat generated in a building is lost through its fabric including vents and gaps. Some key actions include:

- Consider insulation upgrades – there are plenty of alternatives to standard fibre-based insulation that can be used that have a better (lower) U-value, and so can be thinner.
- Ensure 300 mm of standard fibre – based insulation in attic spaces (e.g. mineral wool, glass wool, sheep wool, hemp, etc.), and use at least 2 layers at right angles to each other.
- Consider wall insulation, where warranted – injection of insulation for cavity walls, or external insulation for other wall types.

For windows

- Consider upgrades for window – replace single glazed windows with double or ideally triple glazed windows.
- Curtains – draw curtains and lower blinds at the end of each day to help keep warmth in during winter months.
- Seal floor gaps and cracks – nearly 10% of heating lost can occur through the floor.

Heat recovery

Heat recovery options include harnessing waste heat from sources such as laundry rooms or kitchens. These take the exhaust air and pass it over a heat exchanger to provide hot water that is then fed into the existing hot water system (or used directly if sufficiently hot).

For extensions or a new build, a Mechanical Ventilation with Heat Recovery system provides controlled fresh air to a building and recovers heat from the outgoing air via a heat exchanger. However, these systems require that the building is 'air-tight' so these systems are generally not appropriate for older buildings.

Lighting

Reducing energy consumption in the lighting system can be achieved through the flowing two main steps:

- Install LEDs lights – this can significantly reduce electricity use (up to 80% less depending on the existing system), with much longer lifetimes and little maintenance. There are LED alternatives available for virtually every bulb type. If you haven't already retrofit your lighting, at the very least get a lighting assessment done to review the return on investment.
- Install automatic sensors on lighting – motion sensors in bathrooms and corridors, and little-used areas; and daylight sensors on any outdoor lighting. LED lights can be programmable, e.g. to dim at certain times of the day. Work in other countries has shown the benefit to residents in terms of better sleep patterns where lighting is dimmable and where light colour temperature can be varied.

Note: There are grants available for lighting upgrades, often through energy supply companies.

Catering equipment

Improving catering equipment can reduce the energy consumption significantly. Some of the main considerations are:

- Installing controllers/heat exchanger in extractor fans – the costs of running extractors can be reduced through better control (e.g. variable speed version with a manual switch or thermostatic control) or thorough using the heat as a source for heat exchange. These fans are typically on all day and are often oversized; thus, it's important equipment to examine.
- Upgrading to high-efficiency dishwashers options – while more expensive to purchase, these save on water and heating bills as well as reduced cleaning product consumption.

Renewables

Installing a renewable energy source can be an ideal solution to help reduce energy consumption in a nursing home. Some options include:

- Heat pumps – while heat pumps can be used as the primary source of heating in new homes (which are completely sealed and very well insulated) in older buildings they are often best used to supplement other heating systems (e.g. pre-heating water for existing boilers).
- Solar water – heating panels that provide hot water.
- PV panels – these are solar panels that generate electricity rather than hot water. This electricity can be used on-site and/or supplied back into the grid.

Deciphering (and saving) on energy bills

Shop around for the best practices annually, or before your contract expires. Prices can often increase at the end of contract without notification and new customers usually get the best prices annually. With regard to your bills, keep an eye on:

Maximum import capacity (MIC) – most large sites are on a maximum demand-type tariff, where you are billed in two main ways;

- On the amount of electricity you use (e.g. day and night units), and
- The maximum quantity of electricity that the site MAY need at any one time, the MIC. MIC is measured in kVA and is similar to a kilowatt.
- Getting your MIC at the right setting is important – too low you will incur penalties every time you exceed it, too high and you pay for more than you need on every bill. If you are unsure, contact your supplier.
- Day and night – depending on your electricity supplier and your size, a kWh will cost roughly €0.15 on average. You can get different rates for night-time use, which can be nearly 50% cheaper than day rates. So, by switching some services to night time (e.g. putting laundry on timers), you can reduce your electricity costs.
- Wattless charges – while not common outside industrial sites, these can occur, especially in older sites or where lots of pumps or motors are used. If you are paying for wattles charges, contact your electrician, as equipment can be installed to compensate for this and avoid such charges.

Other Sustainability Actions

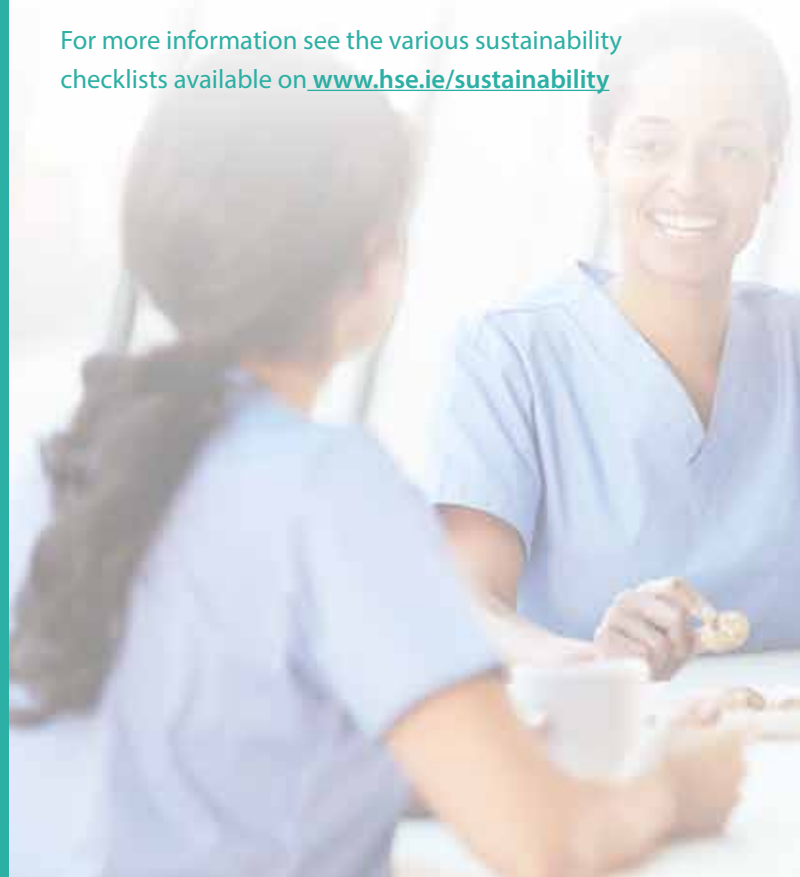
In addition to the main resource areas, there are of course other ways that your healthcare facility can improve its sustainability and contribute to national efforts to mitigate climate change. These too should be considered for your Green Action Plan and some of these are outlined here.

Staff Awareness

It is very important that staff are aware and involved in your Green Action Plan. This can be achieved through:

- Ensuring that the Plan is communicated to staff and they are encouraged to actively participate through regular progress updates and meetings.
- Asking staff for their inputs and suggestions on how to save water, waste, and energy in the healthcare facility.
- Reminding staff of the importance of turning off lights and equipment when not in use, not letting taps run unnecessarily, print only when necessary, and to put wastes into the correct bin.
- Encouraging staff to report any maintenance issues (e.g. water leaks, poor bin signs) around the facility.

For more information see the various sustainability checklists available on **www.hse.ie/sustainability**



Sustainable Purchasing

- Whether it is supporting local, sustainable, seasonal - with every purchase made we can make a difference. Below are some actions to consider with more available on **www.hse.ie/sustainability**.

- Where possible, choose seasonal foods to serve to residents. These have both health and environmental benefits as well as being good value – and tastier too!

- Buy local, as far as possible, for goods and services. This reduces the carbon footprint and supports local business. Similarly, where possible, support fair trade or similar schemes.

- Try to buy 100% post-consumer recycled paper. If this is not an option consider FSC paper. This helps create a market for recycled materials.

- Support local reuse enterprises (e.g. Mens/Hens sheds) when purchasing items like furniture, decorative garden items, etc. More information on reuse outlets can be found at **www.crni.ie**

Pollinators

- Helping the bees and other pollinators is an important job for any business owner. Biodiversity Ireland provide excellent information on pollinator plans for different types of areas. Below are some of their main tips and for more go to **www.pollinators.ie**

- Protect hedgerows (especially flowering ones like whitethorn/hawthorn), dry stone walls, earthen banks, and patches of wild flowers. These provide food and shelter for pollinators.

- Allow dandelions to bloom during their first flush in March/April - suspend mowing for the couple of weeks involved.

- Use a pollinator friendly mowing routine - reduce the frequency of mowing for some or all of your grassy areas, allowing wildflowers to bloom. Small areas or strips of grass can be made into a "six week meadow". If you have the room, consider a proper meadow area (cut and lifted once a year). Cutting paths and borders will show these areas are being managed.

- Plant pollinator friendly flowers, plants, trees and shrubs.

- Reduce or eliminate the use of pesticides and use alternatives like mulching to keep weeds under control or use heat torches, natural weed control alternatives (e.g. vinegar based), or manual removal for weeds.

Sustainable Gardens

- Plant native trees and plants. These will help local wildlife like birds and insects to flourish. They have the added benefits of being low maintenance, usually won't need watering, and are lovely to look at.

- When planting consider slow growing or dwarf varieties – this will help minimise the garden materials that you have to manage in the future.

- If you have a lot of grass areas then consider using grass cycling. This will help reduce the volumes of grass clippings that need to be managed. **See more on grasscycling at https://compostingireland.ie/resources/**

- Minimise water used for grounds maintenance and use rainwater. Rainwater butts are easy to install and provide better water for plants (and washing windows or vehicles too!). Where plants need watering in dry spells, do so late in the evening or early in the morning.

Grow your own Case Study:

An elderly day care centre in County Cork started to grow various herbs in a raised bed outside the centre. This now provides herbs for the kitchen, food for the bees when in flower, and a pleasant spot in the garden. It also saves on money and waste in the kitchen.
www.giy.ie

This guidance was produced by the Clean Technology Centre
on behalf of the Health Service Executive.
2023

www.hse.ie/sustainability