NURSING HOME

SUSTAINABILITY GUIDE

At AIB, sustainability forms a key pillar of our business strategy. As a financial institution at the heart of the Irish economy, we recognise that the scale and impact of our business confers on us a responsibility and role across the economy and society. We have committed to do more to help ensure a greener tomorrow, by backing those building it today.

AIB has a target to achieve Net Zero in our own operations by 2030, and an ambition that green or transition lending will account for 70% of overall new lending by 2030, with a target to achieve Net Zero in our financed emissions by 2040 for our lending portfolio (2050 including agriculture).

To support our customers on their own sustainability journey, AIB is releasing a series of sector specific sustainability guides. These guides aim to provide practical tips and information which can be used by businesses to transition their operations to a more sustainable footing.

This series has been produced in partnership with Mabbett, a leading environmental consulting and engineering firm. To view the full series of guides, please visit **www.aib.ie/business**.

TADHG DALY, CHIEF EXECUTIVE, NURSING HOMES IRELAND

Sustainability in the context of climate change has become extremely important for all sectors, including healthcare. Nursing homes have an important role to play in helping combat the climate crisis by reducing carbon emissions and adapting to the impacts of climate change. Social sustainability is inherent in the activities of nursing homes who play a vital role in local communities caring for residents on a 24/ 7 basis. Across Ireland, there are over 500 nursing homes operating within urban and rural communities. They have an important role to fulfil in supporting us in meeting our climate change objectives and targets.

Nursing homes are facing unprecedented challenges with cost inflation, staff shortages and increased regulation all impacting on the sustainability of the sector. It is more important than ever to look at ways of managing costs. By reducing the environmental impact through resource efficiency and education, nursing homes can reduce running costs and emissions, and help protect the health and wellbeing of residents, staff and the community as well as future generations. Nursing homes are healthcare innovators and are ready and willing, with the appropriate support, to playing a leading part in addressing the climate change challenge.

We are pleased to engage with AIB on this important and timely Guide. It is important as a sector we take the necessary steps to play our role in protecting and saving the environment. I hope that this Guide will be a good source of information to help you start or continue your sustainability plan.

NURSING HOME SECTOR – SUSTAINABILITY GUIDE

There are currently circa 31,700 registered nursing home beds of which circa 26,500 (or 84%) are operated by private & voluntary nursing homes. Ireland's ageing demographic has led to increasing demand for nursing home beds. In the Census 2022, the population aged 65+ was 776,000 (15% of the total population), a significant increase of 22% since 2016. The Central Statistics Office (CSO) estimates, by 2031, the 65+ population will increase to 1 million, which will potentially give a requirement for circa 11,300 additional new bed bringing the total nursing home bed requirement to 43,000 by 2031.

Operating a sustainable nursing home is increasingly key to both attracting stakeholders and controlling costs. Improving resource efficiency makes complete business sense – it saves money, boosts business reputation, and helps to reduce our environmental impact, slowing down the impact of climate change. For the nursing home sector, strengthening resource efficiency has never been more important, as inflation and staffing pressures are having a significant impact on the viability of nursing homes across Ireland. Financial savings that can be gained from adopting a more sustainable approach to business could make a significant difference to your bottom line.

Making significant changes and establishing daily working practices can be easier said than done. One of the aims of this guide is to help nursing home operators understand the benefits of maximising resource efficiency and supporting them to do so.

KEY BENEFITS

Financial savings – both long and short term

Improving the efficiency of resource use not only saves money on bills and purchasing costs, but it can reduce 'hidden' costs such as energy, labour and waste management, making a difference to your bottom line.

Reduced carbon footprint

Better resource efficiency could see you reduce your business's carbon footprint.
This can support future proofing your business, in line with government legislation such as Ireland's Climate Bill and Path To Net Zero Emissions[1]

Good for the environment, good for business

When owners of a nursing home seek to sell or develop their assets or look for funding or investment, the sustainability performance of the business will be assessed. Taking an active approach to sustainability can also make you a more attractive employer, reduce staff turnover and help with supplier engagement, including providers of finance.

This guide looks at some key resource intensive areas in the Nursing Home Sector, including energy, water, waste and social sustainability. For each topic, we identify common 'hot spot' issues and share some ideas for how you could enhance the sustainability performance of your business.

ENERGY

Energy is the biggest utility expense for nursing homes. Energy costs in nursing homes (excluding the Temporary Inflation Payment Scheme) increased by 71% over the last 2 years[2]. Enhancing energy efficiency in nursing homes revolves around optimising the energy that is being used while ensuring the comfort and safety of residents remains uncompromised.

The first step in working out how best to increase energy efficiency in your nursing home business is to gain an understanding of what areas use the most energy through identifying:

- Key business areas that require energy (e.g. equipment, parts of the building, specific activities).
- How much energy is being consumed (this should include electricity, gas, and oil, where applicable. Information can be found on bills, meter readings, and expense receipts.)

1 https://www.gov.ie/en/press-release/22e97-government-approves-landmark-climate-bill-putting-ireland-on-the-path-to-net-zero-emissions-by-2050/#
2 PwC report reveals funding crisis in nursing home sector - Nursing Homes Ireland (nhi.ie)

By examining this information, you can identify trends on energy use and generate a benchmark for your nursing home. Currently, there are no nursing home specific benchmarks to compare with but you can compare the performance of your home from one month/year to the next to drive energy efficiencies.

HOT SPOT ENERGY EFFICIENCY OPPORTUNITIES

BUILDING FABRIC

When it comes to energy savings, building fabric upgrades are often the first port of call by focusing on key areas such as insulation, windows, roofing, and air sealing. Prioritising these upgrades enhances the thermal performance of your building and minimises heat loss or gain.

UPGRADES
Identifying & sealing air leaks • Identify and seal any air leaks in windows, doors, and building envelope to prevent drafts and heat loss. Consider completing an Infrared Survey to identify the most inefficient areas to prioritise.
Improve insulation • Enhance insulation in walls, ceilings, and floors to reduce heat loss and improve the overall thermal performance of the building. This includes insulating pipes, ducts, and valves to minimise heat loss during distribution.
Install energy-efficient windows • Replace old, single-pane windows with energy-efficient double or triple-glazed windows that have low-emissivity coatings and insulating gas fills. This helps minimise heat transfer and improves overall energy performance.
Install shading devices • Install shading devices like external blinds, awnings, or overhangs to control solar heat gain. Implement these shading strategies to reduce reliance on air conditioning.

SMART WORKING AND TRAINING

Through a combination of smart working practices and comprehensive training, nursing homes can effectively enhance energy efficiency. By equipping staff with knowledge and awareness of energy-saving practices, they can make informed decisions and actively contribute to conserving energy. Training initiatives that emphasise the significance of energy efficiency and provide guidelines on behaviours like lighting usage (e.g., through the implementation of a switch-off policy), thermostat and Heating Ventilation and Air Conditioning (HVAC) optimisation and the utilisation of energy-efficient equipment foster a collaborative environment where staff are empowered to make energy-conscious choices. This collective effort creates a culture of energy consciousness within the nursing home, benefiting both the home and its residents by promoting sustainability and reducing energy consumption.

HEATING VENTILATION AND AIR CONDITIONING CONTROL

Multiple control-based actions can be implemented to optimise the performance of heating, ventilation, and air conditioning (HVAC) systems. By utilising controls effectively, you can reduce energy consumption, lower utility costs, and create a more sustainable and comfortable indoor environment.

CONTROL VARIABLES
Upgrading controls • Utilising programmable thermostats to control temperature/ ventilation settings based on occupancy patterns and schedules, ensuring that heating and cooling is optimised for comfort while minimising energy waste during unoccupied periods.
Zoning • Divide the nursing home into different heating/cooling zones to allow for customised temperature control in different areas. This helps avoid over-heating or excessive cooling in unoccupied or less frequently used spaces.
Use of timers • Utilise HVAC time control/programmers to turn heating/cooling on and off at fixed times each day.
Weather compensation controls • Utilise programmable HVAC systems that automatically alter the internal temperature and vary the heating/ cooling according to the outside temperature, which can also include night setback controls.
Smart controls and monitoring • Install smart controls and monitoring systems for HVAC systems to optimise operation and detect any anomalies or inefficiencies. These systems provide real-time data and insights to facilitate proactive management and energy optimisation.
Thermostat location • Ensure accurate temperature readings are being taken by ensuring thermostats are not being influenced by draughts, sunlight or internal heat sources like radiators. This will increase accuracy and avoid unnecessary heating/cooling.

HEATING

Due to the nature of care provided by nursing homes, it can be very challenging to provide a comfortable and warm environment for residents while avoiding excessive energy costs. Heating expenses typically make up approximately 70% of an average nursing home's energy consumption, while hot water usage accounts for approximately 12%[3]. This means prioritising the enhancement of space heating and water heating efficiency, which becomes crucial for nursing home operators seeking to reduce energy costs. The following actions will help.

SPACE HEATING

Understand how your heating system works

- This will enable 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.

Optimum temperature

- Utilise optimum start controls on thermostats to limit preheat times in certain zones and to reach the desired temperature in time for when the area is going to be occupied e.g., communal lounges in the morning.

Balance heating distribution

- Adjusting flow rates and balancing valves in the heating system will ensure that each room receives an adequate amount of heat, avoiding overcompensation and minimising energy waste.

Boiler Upgrade

- Consider switching to an electric heating system, such as electric boilers or heat pumps in well insulated buildings. Where this cannot be done, ensure condensing modes on boilers are being optimised.

Regular boiler maintenance

- To ensure your boiler is running efficiently. This includes cleaning or replacing air filters, checking and repairing ductwork, and optimising combustion efficiency.

Radiator or radiator valve upgrades

- Upgrading radiators or installing thermostatic radiator valves (TRVs) to provide individual control over heating in different rooms.

Underfloor heating:

- Consider installing underfloor heating systems, especially in common areas or high-traffic areas. Underfloor heating provides even heat distribution and reduces heat loss from higher ceilings.

Energy-efficient space heaters

- If individual space heaters or secondary heating systems are required, opt for energy-efficient models that have programmable settings.

Heat recovery systems

- Implement heat recovery systems, such as air-to-air or water-to-water heat exchangers, to capture and reuse waste heat generated by HVAC systems. This recovered heat can be utilised to preheat incoming fresh air or hot water, reducing the energy required for heating.

3 https://energysavingtrust.org.uk/

INSULATION

Utilise thermal window coverings

- Install thermal window coverings such as curtains or blinds to provide additional insulation and reduce heat loss through windows at night or during colder periods.

Energy-efficient air curtains

- Install energy-efficient air curtains at entrances and exits to minimise heat loss when doors are opened. Air curtains create a barrier of air that prevents the infiltration of cold air and reduces the need for additional heating to compensate for the lost heat.

Pipework insulation

- Insulate exposed heating pipes, such as those in basements or utility areas, to prevent heat loss during distribution. Insulation minimises heat wastage, allowing more heat to reach the desired locations efficiently.

Radiator insulation

- Reflective radiator panels behind radiators prevent heat loss through the external walls and reflect heat back into the room, maximising the efficiency of radiators.

WATER HEATING

Water heater sizing and design

- Ensure proper sizing and design of water heating systems to match the actual hot water demand. Oversized water heaters can result in energy waste, while undersized heaters may lead to insufficient hot water supply.

Hot water demand management

- Implement strategies to manage hot water demand effectively. This can include scheduling laundry and dishwashing during off-peak hours to reduce simultaneous hot water usage, preventing overloading of the water heating system.

Water temperatures

- Is your hot water too hot? Hot water is stored at a temperature of at least 60°C and distributed at 50°C minimum, to prevent risks from Legionella. Lowering the temperature even slightly can result in substantial energy savings over time.

Instantaneous water heater control

- Utilise to regulate water temperature and flow, eliminating standby heat losses and unnecessary heating cycles. Ensure these are set to optimise local settings and not left on ‘max’ as a default.

Efficient appliances

- Replace old, inefficient appliances such as dishwashers and washing machines with water-efficient models. Look for appliances with high energy efficiency ratings and water-saving features to reduce hot water consumption.

Utilise Thermostatic Mixing Valves (TMV)

- To control water temperatures at fixtures and ensure safe water temperatures while minimising the need to excessively heat water.

Regular maintenance

- Of water heaters to ensure proper operation and to check for leaks. Well-maintained water heaters operate more efficiently and have a longer lifespan.

Insulate the water heater tank

- Wrap the water heater tank with insulation (e.g., insulating jackets) to reduce heat loss and improve its overall efficiency. This can help maintain water temperature and reduce the frequency of water heater cycles.

Pipework insulation

- Insulate hot water pipes to minimise heat loss during distribution. Pipe insulation helps maintain hot water temperatures and reduces the need to run taps or showers for extended periods to get hot water.

CASE STUDY

CareChoice

CareChoice have a wide range of sustainability features in their new Parnell Road Nursing Home development. Circular Economy principles were used throughout the design & build stages, that optimized the use of resources, minimized waste, facilitated reuse and recycling: EPD rated construction materials were used to achieve compliance Part L Building Regulations, which resulted in low carbon emissions during & after construction and Modular Framework Concept, Design Supply & Installation of Modular Pods to ensuite facilities across 143 residential rooms.

The installation & management of Combined Heat Power Plant achieves a considerable renewable energy ratio, with electrical supply back to grid. The installation of Utility Monitoring Platform allows for better utility management. Installation of 4 x electric vehicle car charging ports and rain water harvesting plant to provide water supply for laundry operations. The latest building service technologies are used to control asset life cycle costs, e.g. installation of DALI lighting system (Digital Addressable Lighting Interface) allowing greater control of lighting systems, reducing power needs and increasing usage life of lighting equipment in long term.

VENTILATION

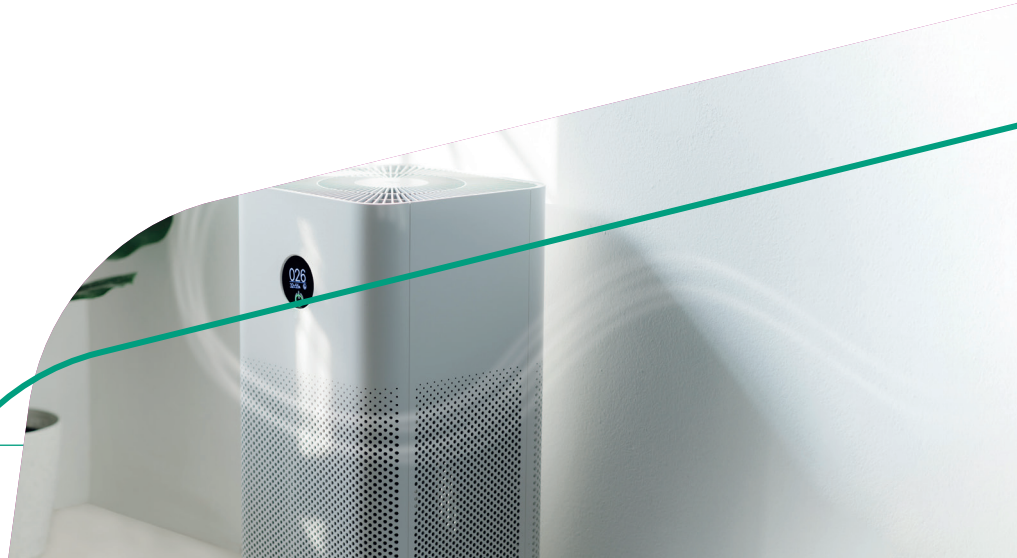
Ventilation plays a critical role in maintaining a healthy and comfortable indoor environment for residents and staff within nursing homes, as inadequate or inefficient ventilation can lead to poor indoor air quality, increased humidity levels, and potential health risks for vulnerable individuals. With an increased demand for ventilation in nursing homes, ventilation-related energy efficiency actions are key to ensure efficiency and optimisation of systems.

MAINTENAINCE/UPGRADES
Regular maintenance and filter cleaning • Perform regular maintenance on ventilation systems, including cleaning or replacing air filters, to ensure optimal performance. Clogged or dirty filters can impede airflow, strain the ventilation system, and lead to increased energy consumption.
Use energy-efficient ventilation fans and motors • Upgrade or install energy-efficient mechanical ventilation systems that provide adequate fresh air whilst minimising energy consumption. Look for systems with variable speed drives (VSDs) and energy recovery capabilities.
Energy recovery systems • Explore the feasibility of energy recovery systems that capture and transfer waste heat/ coolness from exhaust air to incoming fresh air-such systems help reduce energy demand.
Install variable air volume (VAV) systems • Consider installing VAV systems that adjust the air supply based on the demand of different zones within the nursing home, resulting in energy savings by avoiding overventilation.

LIGHTING

Maintaining appropriate lighting levels in nursing homes is essential for the health, safety, and well-being of residents. However, the energy expenses associated with meeting this demand can sometimes be substantial. The table below presents some key energy efficiency measures that can be implemented.

LIGHTING
Optimise room design and layout • Ensure that fixtures are positioned away from windows to allow natural light in.
Label light switches • Ensure light switches are appropriately labelled and clearly indicate which lights they control to ensure energy is not being wasted.



Upgrade to more efficient lighting

- Replace traditional incandescent or fluorescent lights with energy-efficient LED (Light Emitting Diode) lighting. LEDs consume significantly less energy and have a longer lifespan, resulting in reduced energy usage and maintenance costs.

Lighting fixtures

- Choose energy-efficient lighting fixtures that are specifically designed to optimise light output while minimising energy consumption (look for fixtures with high efficiency ratings).

External lighting

- Consider solar powered lights/ LED fixtures with motion sensors or timers for outdoor areas such as parking lots, walkways, and gardens.

Dimmable lighting

- Utilise dimmable lighting systems that allow for adjustable light levels based on the specific needs of residents and staff.

Switching arrangements

- Consider different arrangements for switches that cater to multiple zones to ensure areas are not unintentionally lit when not required.

Pull switches

- Consider implementing pull switches to aid accessibility and ease of turning off fixtures and to minimise energy wastage.

Timers and scheduling

- Use timers or scheduling systems to automate lighting operations. Set specific time schedules for different areas, ensuring lights are turned on and off at appropriate times.

Occupancy sensors

- Install lighting controls, such as occupancy sensors or motion detectors, to automatically turn off lights in unoccupied areas.

Daylight harvesting

- Use light sensors to adjust artificial lighting levels based on available daylight, reducing the need for excessive artificial lighting during daytime hours.

Maintenance

- Implement a regular maintenance plan to clean lighting fixtures and replace any faulty or inefficient bulbs.

Esker lodge nursing home

CASE STUDY - OUR SUSTAINABILITY JOURNEY

Phase one of Esker Lodge was built in 2002, originally with capability to care for 44 residents. In 2010 we knew we needed to expand our offering and we completed a second phase of development. The nursing home was extended to cater for up to 70 residents and offer a dedicated dementia specialist care unit.
As part of the phase 2 development Esker Lodge engaged a design team who embedded sustainability into the phase 2 project.

Examples of the sustainability steps we implemented during our phase 2 extension were:

- Ice Sticks - which now provide 60% of under floor heating to the phase 2 building.
- Solar panels - which provide hot water to both phase one and phase two of the nursing home.
- A well - which provides all of our water supply, reducing our dependency on the local County Council mains water. (The well also allows us to have full control over the quality of our water supply).

In 2015 we decided to go further and with support from AIB we implemented air to water heat pumps to eradicate our use of oil in the phase one building and significantly reduce our dependency on electricity. Working closely with our partners we built thermal stores which allow us to maximize our solar capability and store our hot water for when we need it. During the summer our hot water can reach up to 100 degrees Celsius in our thermal store. This provides hot water to phase 1 with any surplus being pushed to phase 2. In short from April to October we can meet all our hot water and heating requirements using the thermal store and the extended solar panel capability which supports both phase 1 and phase 2 of the nursing home. Today we provide heat and hot water to the entire building using a solution which combines ice sticks, solar panels and air to water heat pumps.

Also in 2015, we started a project whereby we gradually moved all our lights to LED. We have between 500 and 600 lights which were operating at up to 200 watts. By gradually converting all our lights to LED we reduced the wattage we required from 200 watts down to 40 watts, thereby reducing our usage by 80,000 watts. It took a little time but we are now 100% LED in our 38,000 square foot home.

In 2018 we worked with ESB Networks to change our meter from DG5 to DG6 and upped our capacity from 80 KVA to 100 KVA. This reduced our electricity costs and took advantage of the fact that we are a consistent user of electricity with very few peaks or troughs in our pattern of usage. However we want more control of our destiny, especially as energy costs are still so high. We want to ensure that we focus our resources on getting the best outcomes for our residents and all our stakeholders. Therefore for our next project we are going back to solar, specifically PV Panels. We intend to use these panels to generate between 120-130 KVA which we can send back to our substation. Whatever we don't use will go back to the grid. Our goal is by implementing this next piece of the puzzle we will be self-sufficient from an electricity perspective. Our hope is that AIB, who have been a huge support to us overall and on our sustainability journey, will travel with us on the next project.

KITCHEN ACTIVITIES

Effective energy management practices within kitchens can yield significant cost savings and enhance staff working conditions, regardless of the size of the kitchen or the number of residents. There are a range of ways in which energy efficiencies can be achieved.

EQUIPMENT

Energy-efficient appliances

- Replace older kitchen appliances with energy-efficient models that have high energy efficiency ratings.

Right-sizing equipment

- Oversized equipment can lead to unnecessary energy consumption, while undersized equipment may strain to meet demand, resulting in higher energy usage.

Ventilation system optimisation

- Consider installing demand-controlled ventilation systems that adjust fan speeds based on cooking activity to efficiently remove excess heat, steam and odours.

Refrigeration efficiency

- Keep refrigerator and freezer doors closed as much as possible, regularly defrost and clean the units, and set appropriate temperature levels to maximise energy efficiency. Consider installing strip curtains or automatic door closers to minimise cold air loss when accessing the refrigeration units.

SMART WORKING

Overfilling and use of lids

- Avoid over-filling kettles, pots of water and saucepans and use lids where possible to retain heat. Doing so can reduce the time and energy required to bring what you're heating up to temperature.

Pre-heating

- Be familiar with and make use of pre-heat timings on different equipment to ensure that the equipment is only switched on when necessary.

Segregation

- Ensure kitchen equipment is well placed and spaced out. Refrain from locating fridges/freezers too tightly together, or near cooking stations. This minimises the energy required to cool the device.

RENEWABLE GENERATION TECHNOLOGIES

Renewable generation systems can be utilised in many ways to reduce costs and demand for fossil fuel energy systems. The choice of renewable generation system for a nursing home depends on factors such as available resources, site conditions, energy requirements, and financial feasibility. It is advisable to conduct a feasibility study and consult with renewable energy/ environmental professionals to determine the most suitable and cost-effective renewable generation system for a specific nursing home.

UTILISING RENEWABLES

Heat pump water heaters

- Extract heat from the surrounding air and use it to heat water. Heat pump water heaters are highly energy-efficient and can provide significant savings compared to traditional electric water heaters.

Solar water heating

- Utilise solar collectors to heat water. This can supplement traditional water heating methods and reduce energy costs.

Solar-powered lighting

- Install for outdoor areas such as pathways, gardens, and car parks. These fixtures have built-in solar panels that convert sunlight into electricity, eliminating the need for grid power and reducing energy consumption.

Solar photovoltaic (PV) systems

- Install on the nursing home's roof or in nearby open spaces to generate electricity, rather than hot water, to reduce energy costs and reliance on fossil fuels. This electricity can be used in the home and/or supplied back to the grid.

Solar diverters

- Redirect surplus electricity generated by solar PV systems to energy storage systems (e.g., water tank), rather than exporting it back to the grid.

CASE STUDY

Haven Bay Nursing Home is a multi-award winning 127 bed home located in the picturesque town of Kinsale, Co Cork. Similar to all other nursing homes, Haven Bay has experienced a significant increase in its energy costs over the past two years.

To reduce energy costs and reliance on fossil fuels, an investment of €22,000 was made in a Solar Photovoltaic (PV) System, which can generate between 17,000kw and 22,500Kw of electricity per annum. Initially, the electricity produced was diverted to heat the hot water cylinders. Due to the high demand for hot water which was constantly being replenished by cold water, the water temperature could only reach over 40 degrees on solar generated power alone.

This led to a switch to supplying the electricity into the nursing home electrical system, which resulted in savings of €2,500 for the 3 months to the end of June 2023.

MATERIAL USE AND WASTE REDUCTION

As with energy, using food purchased more efficiently should have a direct impact on the waste that's generated. Preventing waste has been estimated to save up to ten times the actual disposal cost, due to the hidden costs of waste such as lost labour time, energy costs and lost materials.

HOT SPOT AREAS FOR WASTE REDUCTION

According to Green Healthcare, only 63% of food produced in a healthcare setting is eaten by patients, with the remaining 37% utilised as follows:

- 21% unserved food - food which has been prepared but has not been served to residents.
- 13% plate waste - food which has been served to residents, but which was uneaten.
- 3% untouched - food that has been plated up but was not touched at all. Usually related to residents either feeling unwell or having difficulty feeding themselves. (Source: HSE - 2021).

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, this varies based on high values for meat down to cheaper prices for the likes of porridge and bread. By measuring and monitoring food waste, you can better target where intervention would be most effective.

FOOD

Preparation

- **Maximise use** - Using as much of the ingredient as possible. Many fruits and vegetables don't need to be peeled, especially if they are going into sauces, stocks and soups. Consider how much of what is thrown away could have been eaten instead.
- **Efficient preparation equipment** - Kitchen gadgets can go a long way in reducing food waste. Vacuum pack machines can extend the shelf life of some produce by up to ten times longer than regular storage.
- **Pre-portioning** - Preparing menu item portion sizes, such as pie fillings, vegetables portions or cuts of meat can reduce waste as portioning can be better controlled and more consistent during busy service times.
- **Timing of meals** - For example, if residents are provided with a mid-morning soup round, this would reduce the amount of food that will be consumed at lunch and size accordingly.

Plate Waste

- **Portion sizes** – Regularly review food that comes back on resident plates and make a note if there are any trends in specific dishes or menu items that are often wasted. This could be an opportunity to reduce portion sizes and save food (and money) ending up in the bin.
- **Feedback** - Trialing changes and seeking resident feedback can be an effective way of making food waste saving changes.

Spoilage

- **Stock rotation** – Practice using the 'first in, first out' system and identify any items that need to be used quickly.
- **Temperature control** – Ensure all fridges and freezers are set to the correct temperature, not cooling food too quickly and reheating food to the correct temperature. This is important for both maximising food quality and food safety.
- **Effective stock management** – Reduce the chance of ingredients spoiling through over-ordering, poor labelling and untracked items.

Food Waste Benchmark

- Benchmarking is an excellent method to track food waste over time or compare one nursing home to another. Benchmarking in the healthcare sector is based on the number of occupied beds. Waste bills should include weights - dividing the total food waste weight generated per month or per annum by the number of occupied resident beds per month/year will generate a waste benchmark for the nursing home.

CONSUMABLES AND DISPOSABLES

Packaging

- **Reduce single use packaging** - Ask suppliers to deliver materials in reusable or returnable packaging, such as returnable plastic crates instead of cardboard boxes. Not only should this improve your resource efficiency, but also reduce waste disposal costs.
- **Request recycled packaging** - Packaging made from recycled content means that it was not made from fully virgin materials, giving it a lower carbon footprint than the virgin equivalent.
- **Reduce packaging** - Where appropriate, ask suppliers to deliver without packaging. Some independent local suppliers often foster strong relationships with clients and greater flexibility around delivery options.

Catering related disposables (paper menus, napkins, paper towels)

- **Reduce use of disposable items** - Take a note of all the disposable items used throughout the nursing home and assess whether they have a necessary function or could they be switched to reusable alternatives or removed altogether. For example, could you use cloth napkins or hand towels instead of paper ones? Could you make use of reusable storage tubs with lids instead of clingfilm?
- **Eliminate single portion condiments** in favour of refillable dispensers/containers for items like sugar, salt, pepper and vinegar.

Waste Bins

- **Segregate waste** - Provide separate food waste bins in the kitchen/dining areas and other areas of the building, which are clearly labelled and signed to enable residents and visitors to use them as efficiently as possible. This is also applicable to all streams of waste including general waste, mixed recyclables and healthcare hazardous waste. Examine how many bins are used around the site and implement actions to reduce the amount of waste produced in the first place.

Consumables (Cleaning products, office stationery, toiletries, etc.)

- **Concentrated products** - Purchase concentrated cleaning fluids that can be decanted and diluted into smaller spray bottles. Not only will this reduce packaging, but it should reduce waste disposal costs.
- **Bulk Purchase** - Reduce the quantity of smaller containers by purchasing in bulk. This is particularly good for items that can be decanted into smaller containers for resident use.

WATER

Water is an important resource for all healthcare facilities. It is used all day, everyday, for a variety of purposes – taps, showers, cooking, cleaning, laundry, toilets and heating. However, water can be expensive, so it is vital to manage it correctly.

One of the most effective ways of reducing water use is to measure how much is being used. This information can usually be found on water bills if your nursing home has a water meter. Look at how much water you use on a regular basis e.g., weekly or monthly to track usage over time and compare usage with national benchmarks. Monitoring consumption allows you to identify trends, identify irregular usage and possible leaks.

The calculation to create a benchmark water figure is as follows:

$$\frac{\text{Volume of water used(M3)}}{\text{No of resident bed-days}} \times 1000 = \text{Benchmark (Liters per resident bed-day)}$$

The HSE state that the national best practice benchmark for water usage in Irish community nursing units and nursing homes is below 200 litres per patient bed-day, 250-500 litres per patient bed-day is normal practice and above 500 litres is poor practice. 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 other nursing homes.

HOT SPOT AREAS FOR WATER CONSERVATION

KITCHEN

Consider the following for water saving opportunities:

- **Dishwasher unit efficiency** - Is your dishwasher using more water than necessary? Compare how many litres it consumes per cycle with other similar capacity units on the market. Saving even 0.5 litres of water per wash load would lead to substantial water and energy savings.
- **Optimise usage** - Ensure your dishwasher and glasswasher are filled to max capacity before running the cycle, as this will optimise cycle times. Instilling sustainable habits in staff should result in real long term time and money savings.
- **Defrosting** - Defrost produce overnight in the fridge rather than under a running tap.
- **Pressure valves** - Consider installing pressure reducing valves on taps. Regulating water flow is a simple way to reduce water use, and the energy needed to heat it.
- **Handwashing** - For handwashing taps, a flow rate of 4 – 6 litres per minute is recommended. This can reduce water consumption while maintaining a sufficient flow for hygiene.
- **Pre-rinsing spray heads** – Fit in the pot wash section, a low flow rate of 2.5 – 5 litres per minute is recommended best practice.
- **Boiling water tap** - Consider whether installing a boiling water tap would increase water and heating efficiency.

RESIDENT TOILETS, SHOWERS, TAPS

- **Install water saving taps & shower heads** - If bathroom taps have higher flowrates, fit laminar flow aerators to reduce flowrates. For showers with higher flow rates 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.
- **Install low flush toilets** - Older style toilets can use up to 13 litres of water per flush. More efficient toilets only use up to 4.5 litres per flush.
- **Consider retrofitting toilets with low flush devices** – If budgets are a challenge, there are a number of water saving devices available which minimise water use in existing toilets by restricting the volume of water used per flush. These include retrofit dual flush conversion kits, cistern dams and cistern bags.
- **Measure flow rates** - Measure flowrates on all taps and shower heads and compare this with best practice values.

LAUNDRY

- **Maximise efficiency** - Operate washing machines on full loads.
- **Equipment** - When upgrading equipment, look for water use information on the European Water Label.

EXTERNAL

- **Harvest rainwater** - For outside use, such as gardening, vehicle and bin washing and general cleaning.

GENERAL GOOD PRACTICE

- **Leaks** – If your water use is higher than expected on benchmarking then you may have a leak. Identify and fix any leaks as soon as possible.
- **Turn off policy** - Implement a 'turn off' policy, encouraging staff not to leave taps running.
- **Staff engagement** - Introduce staff training and awareness to highlight the importance and benefits of water efficiency to the business. This should be done regularly, as some long-term staff may need refresher sessions.

SOCIAL SUSTAINABILITY

Social sustainability assesses a nursing home's engagement with, and impact on, its workers, residents, suppliers, and the local community.

Social sustainability is something nursing home operators already address by virtue of the nature of their business – delivering high-quality health and social care. However, social sustainability needs to be viewed through a wider lens that clearly encompasses other responsible business factors, such as policies and practices affecting employees and the community because nursing homes often play a crucial role for the communities they serve and derive revenue from the government.

THE BENEFITS OF IMPROVING SOCIAL SUSTAINABILITY IN YOUR NURSING HOME

- Improving business reputation.
- Attracting employees who value working for a socially and environmentally conscious employer.

There are many ways in which social sustainability can be promoted in your nursing home, depending on your interaction with the different stakeholder groups. Some of the top things to consider when engaging with these key stakeholder groups.

HOT SPOTS FOR SOCIAL SUSTAINABILITY

WORKFORCE

- Supporting health, safety, and wellbeing, making your nursing home a safe, welcoming, and desirable place to work enhances its reputation. What staff say about working at the nursing home is the impression which others will receive.
- Provide regular training and support to staff to improve their confidence and sense of value in the team. Staff who feel valued and included within the team are more likely to perform well and foster company loyalty. This can reduce costs associated with staff turnover and low productivity.
- Promoting equality in the workforce with diversity and inclusivity policies.
- Identifying and supporting career development.
- Communicate your nursing home's sustainability plans to all staff and encourage them to actively participate through regular updates and meetings.
- Ask staff for their input and suggestions on how the nursing home can become more sustainable.

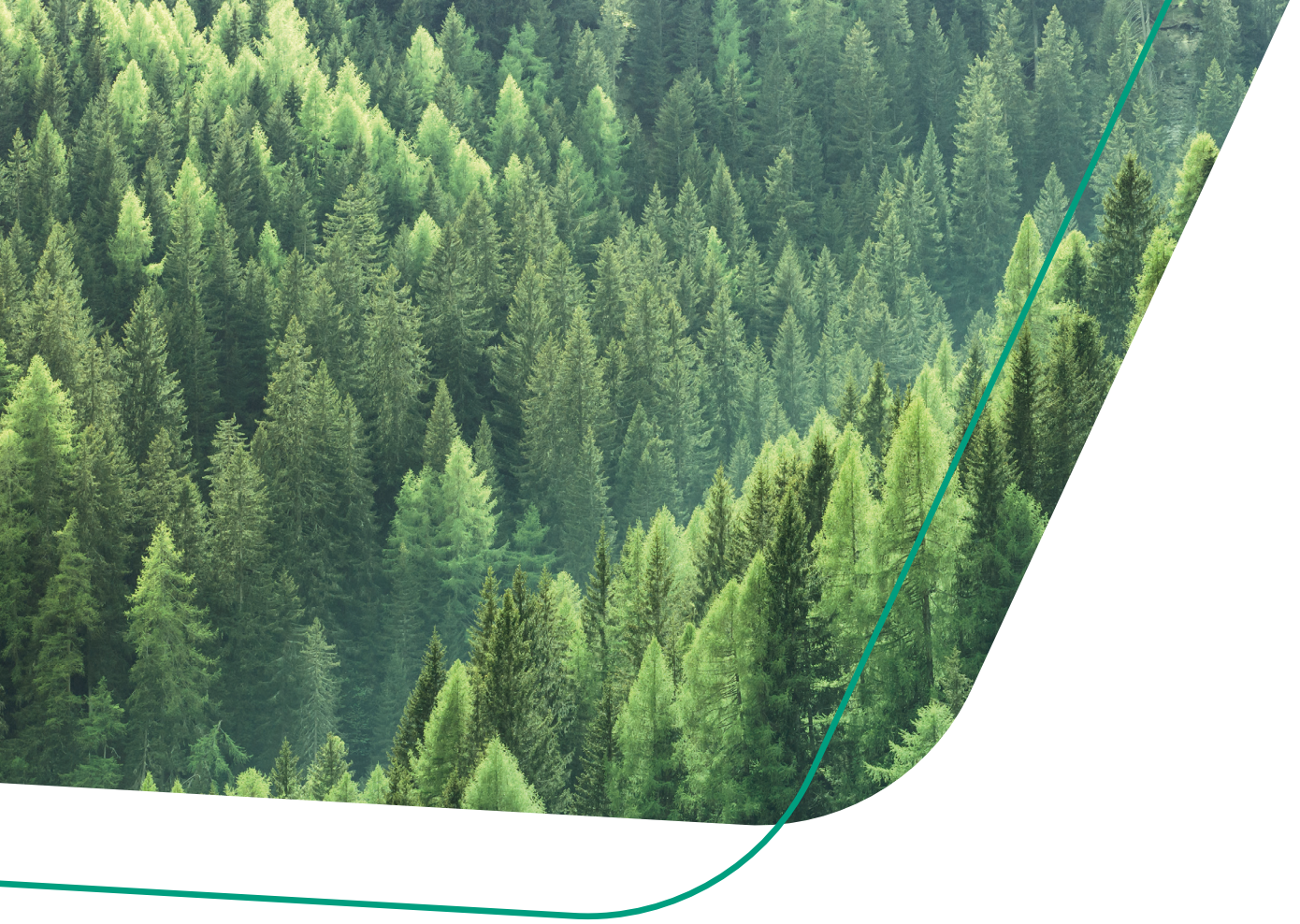
- Encourage staff to reduce vehicle use by promoting active travel (walking and cycling), the provision of electric bikes, changes in infrastructure (e.g. improved cycle paths, storage and shower facilities).
- Introducing a Cycle to Work Scheme and/or Annual Tax Saver tickets which are tax incentive schemes to encourage staff to cycle to work or use public transport and install EV charging ports.

SUPPLIERS

- Buy local, as much as possible, for goods and services. This reduces carbon footprint and supports local business. Similarly, where possible, support fair trade or similar schemes.
- Preventing abuses within the supply chain, such as labour rights, including modern slavery.
- Uphold standards of fair trade and social equality.

RESIDENTS AND COMMUNITY

- Create a community within the nursing home where residents feel at home and are as comfortable as possible.
- Create a welcoming environment for visitors who come to see residents, allow them to relax and be comfortable and happy with their relatives/friends in the home.
- Contribute to the local community, such as investing in local projects or funding educational and sustainability initiatives.
- Support local reuse enterprises (e.g. Mens/Hens sheds) when purchasing items like decorative garden items.
- Donate materials or redistribute surplus food/drink to those in need within the local community.
- Plant native trees and plants and pollinator friendly flowers to help local wildlife like birds and insects to flourish and grow herbs for the kitchen.
- Reduce or eliminate use of pesticides and use mulching to keep weeds under control or use natural weed control alternatives, or manual removal of weeds.



ADDITIONAL RESOURCES AND INDUSTRY BODIES

- **Green Healthcare:** 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, and increase recycling *https://greenhealthcare.ie/who/*
- **Sustainable Energy Authority of Ireland** (SEAI) is Ireland's national sustainable energy authority, working with businesses to create a cleaner energy future. *https://www.seai.ie/*
- **SEAI information on business grants** *https://www.seai.ie/business-and-public-sector/business-grants-and-supports/*
  SEAI Lighting Guide provides information on efficient lighting advice and best practice tips. *https://www.seai.ie/publications/SEAI-Energy-Efficient-LED-Lighting-Guide.pdf*
  SEAI training support
  https://www.seai.ie/business-and-public-sector/small-and-medium-business/supports/training
- **AIB / SBCI Energy Efficiency Loan Scheme** supports qualifying Irish businesses, including primary producers, by providing access to affordable medium to long-term finance, so that they can invest in the energy efficiency upgrade *https://aib.ie/business/sbci/energy-efficiency-loan-scheme*
- **The Carbon Trust** provides advice and support to businesses looking to improve their environmental performance. *https://www.carbontrust.com/*
- **CRNI** is the community reuse and recycling network in Ireland: *https://crni.ie/*
- **National Biodiversity Data Centre** provides information on pollinator plans for different types of areas *https://pollinators.ie/*

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