

# Good Practices of Sustainable Healthcare





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## About this publication:

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## About the project:

DesHealth (A Systemic Design approach to education and training on Sustainable Healthcare) project brings together an experienced cross-sector partnership to develop, through design- and systems-thinking methods, interdisciplinary training tools addressed to students and professionals working in the healthcare sector.

Project partners are: Politecnico di Torino, TU Delft, ESCI-UPF, Bioindustry Park "Silvano Fumero", Erasmus Medical Center, Fundació Unió Catalana d'Hospitals, TEM Foundation / Nordic Center for Sustainable Healthcare.



The project and the team are committed to promoting activities that enhance knowledge and awareness about sustainability in the healthcare field.



DesHealth Insights:

# *Good Practices of Sustainable Healthcare*

# GOOD PRACTICES IN THE HEALTHCARE SECTOR

The pursuit of sustainability in healthcare is a growing global imperative, driven by the need to minimise the environmental impact of medical practices while enhancing patient care and maintaining economic viability. As healthcare systems across the world face increasing pressure to adopt sustainable methods, it becomes crucial to explore practical, actionable examples of how this can be achieved. This article aims to present a range of good practices in sustainable healthcare, collected by the partners of the DeSHealth project, which can serve both

as references to current and workable cases and as inspirations for future topics in education and training. These good practices are categorised into three main areas: Products, Healthcare Providers, and Research & Other Initiatives. Each category showcases innovative strategies and solutions that have been successfully implemented to promote sustainability within the healthcare sector. By examining these examples, we hope to provide valuable insights that can guide other healthcare organisations in their journey towards sustainability.

*The fields investigated are:*

## **PRODUCTS**

This category features sustainable medical technologies, like reusable devices and packaging, reducing waste and carbon footprints. Innovations focus on eco-friendly, resource-efficient products, balancing environmental responsibility with quality healthcare.

## **HEALTH PROVIDERS**

This includes hospitals and clinics implementing sustainable practices, like reducing energy use, managing waste, and adopting renewable energy. These efforts set new standards for sustainability in patient care.

## **RESEARCH**

This category includes academic studies, research, and collaborations focused on advancing sustainable healthcare. Universities and organisations develop models addressing healthcare's environmental impact, like carbon footprints and green innovations, providing guidance for future sustainable practices.

# STERILTECH: ON-SITE STERILISATION



**TARGET GROUPS:** *Hospitals*

**AIMS TO REDUCE HAZARDOUS WASTE, ENHANCE WASTE QUALITY, REDUCE COSTS OF WASTE TRANSPORTATION**

**General Data:** Steriltech, Italy, Waste Management.

**Description:** Steriltech, part of Newster Group, offers sustainable on-site hospital waste sterilisation, cutting costs by over 50 %, reducing emissions, and ensuring safety and regulatory compliance.

On-site sterilisation in hospitals refers to the disinfection and sterilisation of medical instruments and devices within the facility, offering sustainability benefits like CO<sub>2</sub> emission reduction, energy efficiency, less chemical use, waste reduction, resource management, and cost savings.

Steriltech Waste Company, a Newster Group entity, champions this approach for solid hospital waste management, ensuring over 50 % in annual savings. The company covers the entire process from ward collection to on-site sterilisation, eliminating the need for off-site transport and storage, enhancing operator safety, upholding high healthcare standards, and reducing environmental impact.

Quick staff training and comprehensive support ensure safety and regulatory compliance. The sterilized waste qualifies as municipal waste, cutting biological risks and the need for daily transport to disposal facilities. Steriltech also offers guidance on Italy's National Transition Plan 4.0 tax incentives.

**Results:** Reduced impacts of hazardous waste management from an economic, management and environmental point of view.

**To scale:** Condition needed includes investment in the waste management technology.

**Potential for learning:** Health hazardous waste, if managed and sterilised on site, can be disposed of with municipal waste.

# SOLVAY: E-PTFE PROJECT



**TARGET GROUPS:** *Hospitals, Local health authorities, The general public*

## AIMS TO ALLOW FILTER REUSE IN SURGICAL MASKS

**General Data:** Solvay, Belgium, Waste Management and sustainable product design.

**Description:** Introducing reusable membranes for surgical masks, the project e-PTFE aims to address the high demand for surgical masks during the COVID-19 pandemic by developing a new polymer for mask filters. Due to the exponential market demand, the commonly used material PP-Melt Brown faced a severe shortage.

In collaboration with Polytechnic University of Milan, Md, the company developed an expanded PTFE (e-PTFE) membrane as a replacement for filter membranes. This solution meets the requirements of EN 14683, providing high breathability and filtration efficiency.

Additionally, the e-PTFE membrane allows for filter reuse, offering a sustainable solution to the market. The goal of the project is to create an autonomous supply chain in Italy, and possibly Europe, that can produce a minimum of 1 billion surgical masks per month during periods of high need. By introducing reusable membranes, customers can contribute to sustainable practices in the mask industry.

**To scale:** Conditions needed include access to groundwater, sun hours, organisation, tax system, grants and so on.

# GAF (GLYOXAL, ACID FREE) FIXATIVE SOLUTION



**TARGET GROUPS:** *Patients, Healthcare Worker*

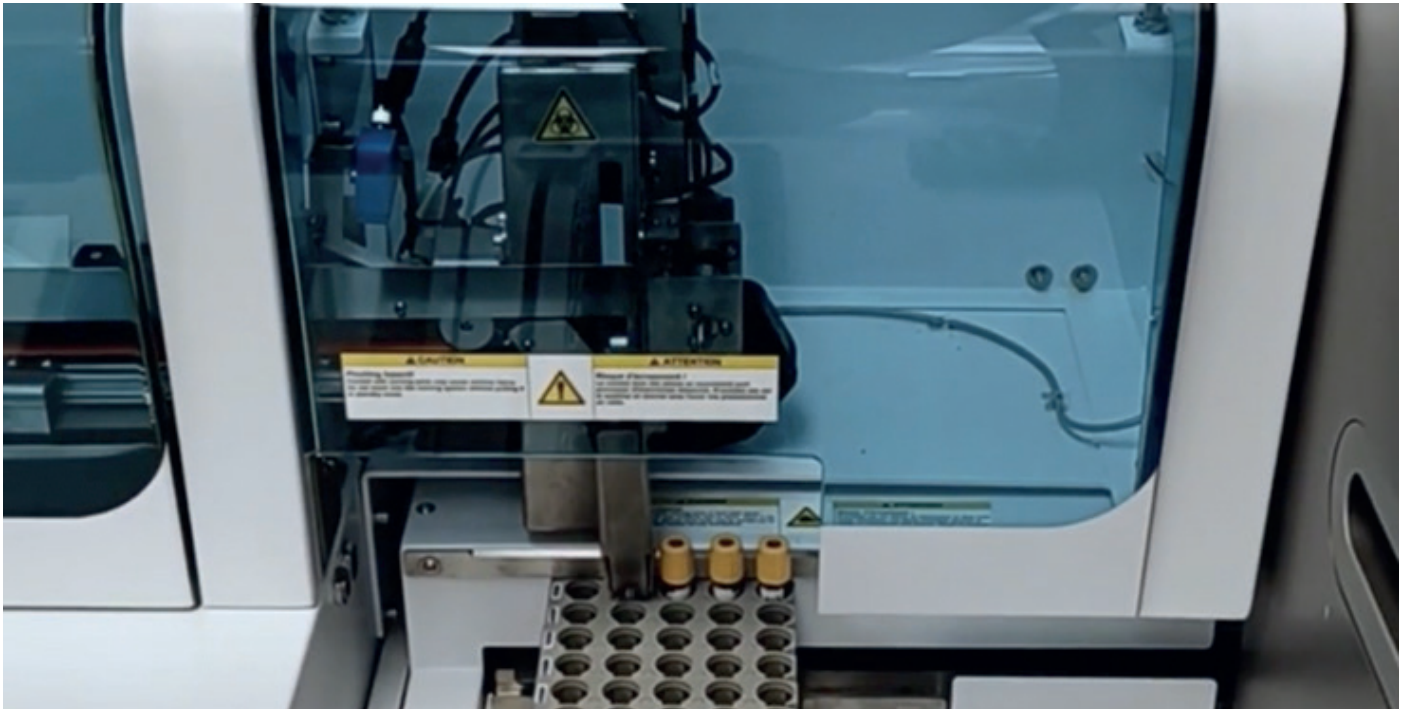
**AIMS TO REDUCE THE USE AND DISPOSAL OF A TOXIC PRODUCT LIKE FORMALDEHYDE**

**General Data:** San Giovanni Battista Hospital of Turin, Italy, Waste Management.

**Description:** GAF is a non-toxic and non-carcinogenic fixative solution, acting as a replacement to Formalin with comparable histological efficacy. The solution addresses health concerns of both patients and healthcare workers. Furthermore, GAF targets environmental protection by minimising the usage and disposal of toxic Formaldehyde.

**Results:** GAF has been validated and has received the CE and FDA approvals. The product is on the market.

# SOLVAY: E-PTFE PROJECT



**TARGET GROUPS:** *Hospitals, Local health authorities, The general public*

## AIMS TO ALLOW FILTER REUSE IN SURGICAL MASKS

**General Data:** Auxologico Laboratory, Italy, Management and sustainability strategy.

**Description:** The Auxologico Laboratory has redesigned its clinical laboratories introducing new technologies – restructuring the computer and instrumental systems – achieving a 30 % reduction in the use of plastic tubes from 3,000 to 2,400 daily. This technological automation, aimed at enhancing efficiency, also positively impacts the environment, workplace safety, patient benefits, and cost savings.

By cutting plastic tube use by 30 %, Auxologico has prevented the production and disposal of 37 kg of CO<sub>2</sub> per day, leading to an annual reduction of 11 tons of CO<sub>2</sub>. This reduction not only means less blood drawn from patients and a decreased risk of cross-contamination for workers – it also means lower

costs. Auxologico has launched several plastic reduction initiatives, including installing water dispensers to eliminate plastic bottles and automated detergent dispensing systems – with the Laboratory’s reduction in plastic tube use underscoring the positive environmental and safety outcomes.

**Results:** prevented the production of 37 kg of CO<sub>2</sub> per day; reduced the use of plastic collection tube by 30 %

**To scale:** Conditions needed include investment in redesigning the clinical laboratory and purchasing new equipment.

**Potential for learning:** plastics use in clinical processes can be reduced through new technologies; plastics in healthcare is a cross-cutting problem that needs to be addressed on clinical, logistical, and behavioural levels.



# BIOBASED CLINICAL WASTE/SHARPS BIN



**TARGET GROUPS:** *Healthcare workers*

**AIMS TO DELIVER SUBSTANTIAL REDUCTION IN CO2 EMISSIONS**

**General Data:** FrostPharma, Finland, Waste Management.

**Description:** WoodSafe, a biobased clinical waste and sharps bin, can reduce CO2 emissions by 66% for every fossil-based bin replaced. This shift offers an immediate climate benefit, particularly in a product category with rapid turnover and a constant need for new items due to strict safety regulations in the healthcare sector.

Given the high consumption of clinical waste bins in healthcare settings, transitioning to bio-based alternatives like WoodSafe has a substantial environmental impact. The material switch not only reduces reliance on fossil fuels but also lessens the overall carbon footprint of waste management practices.

**Results:** in a country with approximately 10 million inhabitants, the widespread use of WoodSafe could lead to annual CO2 savings of up to 15,000 metric tonnes. These savings, while just one piece of the larger sustainability puzzle, represent a meaningful contribution to national and global climate goals.

The healthcare sector, traditionally dependent on single-use, fossil-based products, can play a pivotal role in this transition. With WoodSafe, facilities can meet safety and regulatory standards while significantly lowering their environmental impact. This change not only supports ongoing climate action but also sets a precedent for other industries to adopt sustainable alternatives where possible.

# FSM – A NET ZERO CENTER



**TARGET GROUPS:** *Organisations, People, Targeted stakeholders*

**AIMS TO DESIGN A HOSPITAL WITH THE LEAST POSSIBLE ENVIRONMENTAL AND VISUAL IMPACT**

**General Data:** Hospital Universitari Mollet, Spain, Sustainable Buildings.

**Description:** FSM's journey to Net Zero involves renewable energy, sustainable facilities, zero-emission transport, and waste management, driven by strong governance and staff commitment.

Through initiatives like sourcing 100 % electricity from renewables, sustainable building practices including geothermal energy and photovoltaic installations, zero-emission transport with electric vehicles, and sustainable food sourcing, FSM is significantly reducing its carbon footprint. Key to this effort is strong governance and staff commitment, evident in a sustainability survey where 57 % of hospital workers participated, demonstrating high engagement with the climate agenda and the Green Hospital program.

FSM recognises the inseparable link between human health and environmental health, aligning its strategy with WHO's acknowledgment of climate change as a health crisis.

This commitment underscores the importance of integrating green culture and climate resilience across all institutional areas, ensuring a sustainable future.

### Results:

1. Professionals surveyed showed high commitment to sustainability (57 % participation). Significant ratings include:

- Climate change emergency: 9.44
- Environment-health link: 9.42
- FSM's zero emissions challenge: 8.72
- 44 % have knowledge of heatwave and tropical disease programs; 43 % use tech to reduce patient travel.

2. Net zero in direct emissions achieved, with an 85 % reduction. 15 % offset through Catalan Climate Change Office's Voluntary Compensation Program.

3. The Green Hospital project led to an 84.53 % reduction in direct emissions in 11 years. Despite activity increase, electricity use decreased by 26.37 % and water use by 36.36 %, through resource management improvements.

**To scale:** Conditions needed depend on factors such as regional climate, resource availability, organisational support, tax incentives, grants, and regulatory frameworks. Adaptation to local settings is crucial for successful implementation.

**Potential for learning:**

- Integration of sustainability philosophy into operations
- Emphasis on the inseparable link between human and environmental health - Urgent need to address climate issues as health crises
- Importance of defining a Net Zero roadmap and coherent planning for impactful actions
- Call for widespread knowledge and integration of green culture and climate strategies
- Ensuring governance and professional understanding
- Integration across all institutional areas

# WHITE GOWNS AGAINST CLIMATE CHANGE



**TARGET GROUPS:** *Patients, Public health authorities & researchers, Healthcare professionals*

**AIMS TO EQUIP DOCTORS WITH PRACTICAL TOOLS TO ADDRESS CLIMATE CHANGE**

**General Data:** Mútua Terrassa, Spain, Sustainability strategy.

**Description:** The project “Prescriptors: the authority of white gowns at the service of the fight against Climate Change,” led by Mútua Terrassa, recognises healthcare professionals’ influence in combating climate change. This is a multidisciplinary approach empowering the professionals to lead climate action, integrating sustainability in clinical practices and patient communication.

Through training, research, and effective communication, the project aims to transform clinical practices and raise awareness about the health-climate relationship.

### Results:

- Launch of digital communication actions with patients on sustainable mobility
- Initiation of the Green Pharma project for sustainable prescription guidelines
- Ongoing research on the impact of climate change on prevalent diseases

**To scale:** Conditions needed include access to research resources, collaboration with universities, staff commitment, and institutional support.

### Potential for learning:

- Replicable model for integrating sustainability into healthcare
- Lessons on effective climate change communication for healthcare professionals
- Research strategies applied to climate change adaptation and mitigation in health

# HOSPITAL WITH NATURAL SURROUNDINGS



**TARGET GROUPS:** *Hospitals & healthcare facilities, Local communities & environmental agencies, Waste management organisations*

**AIMS TO REDUCE GREENHOUSE GAS EMISSIONS AND WASTE GENERATION IN HOSPITAL OPERATIONS**

**General Data:** Institut Guttman, Spain, Energy Efficiency & Climate, Waste Management.

**Description:** Embracing its natural setting, the Institut Guttman hospital implements sustainability measures, reducing emissions and fostering biodiversity conservation.

The Institut Guttman hospital is committed to minimizing its environmental footprint. With a total area of 42,100 m<sup>2</sup>, including 10,451 m<sup>2</sup> of gardens, the hospital integrates nature into its facilities. Efforts focus on reducing emissions from energy consumption, waste generation, and transportation. Through meticulous waste management, the hospital ensures proper disposal of hazardous and non-hazardous waste. Awareness campaigns promote sustainable mobility and environmental responsibility among staff and visitors.

By adhering to stringent environmental standards, the hospital aims to operate sustainably and preserve its natural surroundings.

The Institut Guttman Foundation is a monographic and highly specialised Neuro-rehabilitation centre that attends patients from all over the world.

#### Results:

- Reduced greenhouse gas emissions, totalling 28,856.68 t CO<sub>2</sub> eq
- Efficient waste management, with no significant accidental spills in 2022
- Adoption of sustainable transportation practices, promoting the use of public transit

**To scale:** Conditions needed include regional regulations, waste management infrastructure, and staff engagement.

#### Potential for learning:

- Transferable model for integrating hospitals into natural environments
- Lessons on effective waste management and emission reduction strategies
- Insights into promoting sustainable practices in healthcare facilities

# SUSTAINABLE HOSPITAL APPAREL RECOVERY



**TARGET GROUPS:** *Environmental organisations, Healthcare institutions & professionals, Waste managers*

AIMS TO REDUCE IMPACTS OF THE SECTOR THROUGH THE RECOVERY OF HOSPITAL APPAREL

**General Data:** Hospital Clínic de Barcelona, Spain, Management and sustainability strategy, Waste management.

**Description:** Hospital Clínic de Barcelona recovers and reuses hospital apparel through the project “Sustainable Hospital Apparel Recovery”, reducing environmental impact and promoting sustainability in the sector.

By salvaging damaged uniforms and repurposing textiles for other uses, the goal is to minimise waste generation and foster sustainable practices within the healthcare sector. Additionally, internal awareness campaigns are implemented to educate about the importance of sustainability in hospital settings.

### Results:

- Recovery of 37 % of damaged uniforms in 2022, avoiding the emission of 3,300 kg of CO<sub>2</sub>
- Reuse of textiles for manufacturing products such as cloth bags and surgical curtains
- Internal awareness campaigns to preserve the quality of hospital apparel

**To scale:** Conditions needed include availability of waste management resources, collaboration with textile providers, and institutional support.

### Potential for learning:

- Replicable model for other hospitals and healthcare facilities
- Insights into sustainable waste management in hospital environments
- Promotion of awareness about sustainability in the healthcare sector

# INSTALLATION FOR NITROUS OXIDE DESTRUCTION



**TARGET GROUPS:** *Patients, Healthcare workers*

**AIMS TO ELIMINATE CLIMATE IMPACT FROM LEAKAGE OF N<sub>2</sub>O**

**General Data:** Ryhov Hospital, Sweden, Pharmaceuticals In The Environment, Chemical Management.

**Description:** In September 2014, the first nitrous oxide (N<sub>2</sub>O) purification in Region Jönköping was installed at Ryhov maternity ward. The region has now installed N<sub>2</sub>O destruction systems in all emergency hospitals in the region: Ryhov, Eksjö and Värnamo. In addition to this, Region Jönköping has a couple of mobile destruction systems that are used in smaller healthcare operations.

The purification systems break down and purifies 99 % of the N<sub>2</sub>O passing through the installation, eliminating the climate impact from leakage of N<sub>2</sub>O.

**Results:** Measurements made in 2019 show

a reduction in the total amount of N<sub>2</sub>O emissions in the region from 3901 kg of N<sub>2</sub>O to 876 kg per year. This means that the CO<sub>2</sub> emissions has lowered from 1162 tCO<sub>2</sub> equivalents to 262 tCO<sub>2</sub> equivalents per year, a reduction of around 77 %.

# CARBON FOOTPRINT OF ERASMUS MC



**TARGET GROUPS:** *Patients, Healthcare workers*

**AIMS TO CALCULATE ERASMUS MC'S SCOPE 3 GHG EMISSIONS FOR THE BASE YEAR 2021**

**General Data:** Erasmus MC, Netherlands, Management and sustainability strategy, Sustainable Buildings.

**Description:** The main objective of this study has been to get a complete overview of Erasmus MC's organization-wide carbon footprint, in order to locate carbon footprint hotspots throughout the organization and prepare for effective reduction measures.

## A FRONT RUNNER IN SUSTAINABILITY

Erasmus MC has the ambition to take the lead in sustainable healthcare and establish wider collaborations. Some of Erasmus MC's aspirations to take forward the sustainability transition include, but are not limited to:

1. The publication of their environmental impact assessments.
2. Linking environmental sustainability to value-based healthcare.
3. Working towards the establishment of a national healthcare (impact) database.

## ERASMUS MC CONTINUES TO WORK ON SUSTAINABILITY

This project is a continuation of the work on sustainability that Erasmus MC has started previously. In 2020, Metabolic carried out an assessment of circularity for the intensive care unit and in 2021, Erasmus MC collaborated with Royal HaskoningDHV to calculate their 2021 GHG emissions within scope 1 and scope 2. Thereafter, Erasmus MC commissioned Metabolic to complete their 2021 GHG inventory by calculating its scope 3 emissions and support them in setting Science-Based Targets (SBTs).

**Results:** The calculated carbon footprint for Erasmus MC in 2021 is 209.5 kilotonnes (kt) CO<sub>2</sub>-eq. The largest contribution to the footprint is by indirect scope 3 emissions (72.1 %), followed by indirect scope 2 emissions from the generation of acquired electricity, heating and cooling (23.1 %) and direct scope 1 emissions (4.8 %). This distribution of emissions across scopes, with scope 3 emissions accounting for over 70 % of the total,



is in line with the carbon footprint of the Dutch healthcare sector as a whole. The top three categories with the largest carbon footprint for Erasmus MC are:

1. Category 3.1 Purchased goods and services (59.7 % of total, 125.1 kt CO<sub>2</sub>-eq), which covers the indirect emissions related to all purchased goods and services. Within this category, emissions are largely driven by the purchase of medicines, medical products, prostheses and construction investments.

2. Category 2.1 Purchased electricity (20.1 % of total, 42.1 kt CO<sub>2</sub>-eq), which covers the indirect emissions from the generation of purchased electricity.
3. Category 3.5 Waste generated in operations (6.2 % of total, 12.9 kt CO<sub>2</sub>-eq),

which covers the indirect emissions from processing of generated hospital waste.

**To scale:** Conditions needed include expertise not in-house. Hospitals would need to partner up with external organisations in order to get their scope 1, 2 and 3 calculated.

**Potential for learning:** The study focuses on mapping the carbon footprint organization-wide, to be able to target organizational entities that have the most reduction potential. Such a high-level overview allows Erasmus MC to zoom in per organizational entity and develop tailored, effective emission reduction strategies.

Carbon footprint results of organizations highly depend on available data. To calculate Erasmus MC's organization-wide carbon footprint is an ambitious task, because Erasmus MC is a vast and complex organization. Erasmus MC entails a plethora of organizational entities, for which it is an ongoing challenge to streamline and optimize data management and availability.

To calculate a sound carbon footprint, data needs to be as complete and precise as possible for all organizational entities. Moreover, remaining gaps and imprecisions in available data requires transparent decision-making on data processing methods to make the data fit for use.

The carbon footprint of organizations is based on a chosen reference year. For setting Science-Based Targets, the appropriate year is the most recent year for which the organization's operational data is up to date and complete. In the case of Erasmus MC, the reference year is 2021.

# AUTOMATING THE DOSING OF MEDICATION



**TARGET GROUPS:** *Healthcare workers, Patients*

AIMS TO ENSURE SAFER MEDICATION PROCESS, GENERATE LESS WASTE AND ALLEVIATE WORK PRESSURE

**General Data:** Erasmuss MC, Netherlands, Management and sustainability strategy, Logistics & Supply Chain.

**Description:** By automating the dosing of medication for patients, Erasmus MC wants, among other things, to cope with the increasing shortage of nurses. The robot composes the medication based on the prescription of the prescribing doctor or nurse, which gives the healthcare worker more time at the patient's bedside. In addition, there is less chance of medication errors.

These are the advantages of medication robot PillPick, which selects and doses medications for all patients at Erasmus MC.

How does it work?

The medicines arrive at the pharmacy in normal packaging (blisters). The robot cuts the blisters and packs the pills individually.

The pills are then stored in the robot's warehouse. In the department, the doctor writes a prescription for a patient and enters it

in the electronic patient file. The robot receives a command to compile the prescription, pulls the relevant pills from the magazine and bundles them on a ring. The ring, including barcode and patient data, is taken to the department, where the nurse checks the ring and provides the medication to the patient.

**Results:** Unused medication can be returned  
Saves 1 FTE Fewer medication errors

**To scale:** Conditions needed include electricity, space and a semi-constant flow of the same medications.

**Potential for learning:**

System can be used more; vials and so on are currently not done at Erasmus MC

System packages medication in primary packaging; in the future this is possible without, which further decreases waste production

# BIOAIR S.P.A.



**TARGET GROUPS:** *ATMP manufacturers*

**AIMS TO OBTAIN A MORE SUSTAINABLE WAY FOR  
ATMP PRODUCTION**

**General Data:** BioAir, Italy, Management and Sustainability Strategy.

**Description:** BioAir has produced a study on the manufacturing advanced therapy medicinal products (ATMPs). The study demonstrates the benefits of using closed system isolators for ATMP manufacturing in terms of sustainability.

By measuring greenhouse gas emissions to assess the environmental impact, the research suggests that closed systems with isolators offer advantages over traditional clean rooms. Here is why:

- **Reduced energy consumption:** Closed systems might be more energy-efficient due to their enclosed design. Traditional clean rooms likely require a higher amount of energy to maintain sterile conditions throughout a larger space. Lower energy use translates to fewer greenhouse gas emissions.
- **Improved efficiency:** Isolators within the closed systems may create a more targeted sterile environment, potentially reducing overall energy use for maintaining sterility.

**Results:** Adoption of the solution in general hospitals.

## RENEWABLE ENERGY &amp; SUSTAINABILITY INITIATIVE



**TARGET GROUPS:** *Hospitals & healthcare institutions, Renewable energy providers, Environmental organisations*

AIMS TO REDUCE EMISSIONS AND ENERGY DEPENDENCE THROUGH THE INSTALLATION OF SOLAR PANELS

**General Data:** Althaia Foundation, Spain, Sustainable Building.

**Description:** Althaia implements photovoltaic solar panel installations across healthcare facilities to reduce CO2 emissions and enhance sustainability.

The Althaia Foundation has installed such panels at three of its buildings. These installations generate renewable electricity for self-consumption, significantly reducing greenhouse gas emissions and energy dependence. This initiative aligns with Althaia's commitment to renewable energy, energy savings, and sustainability under the Althaia Sustainable project. With a total of 726 solar panels and 278.87 kWp installed capacity, the project is estimated to save 100 tons of CO2 emissions annually.

#### Results:

- Installation of 726 solar panels across three buildings, generating 387,883 kWh of renewable energy annually.
- Reduction of 100 tons of CO2 emissions an-

nually, equivalent to the annual electricity consumption of 120 households.

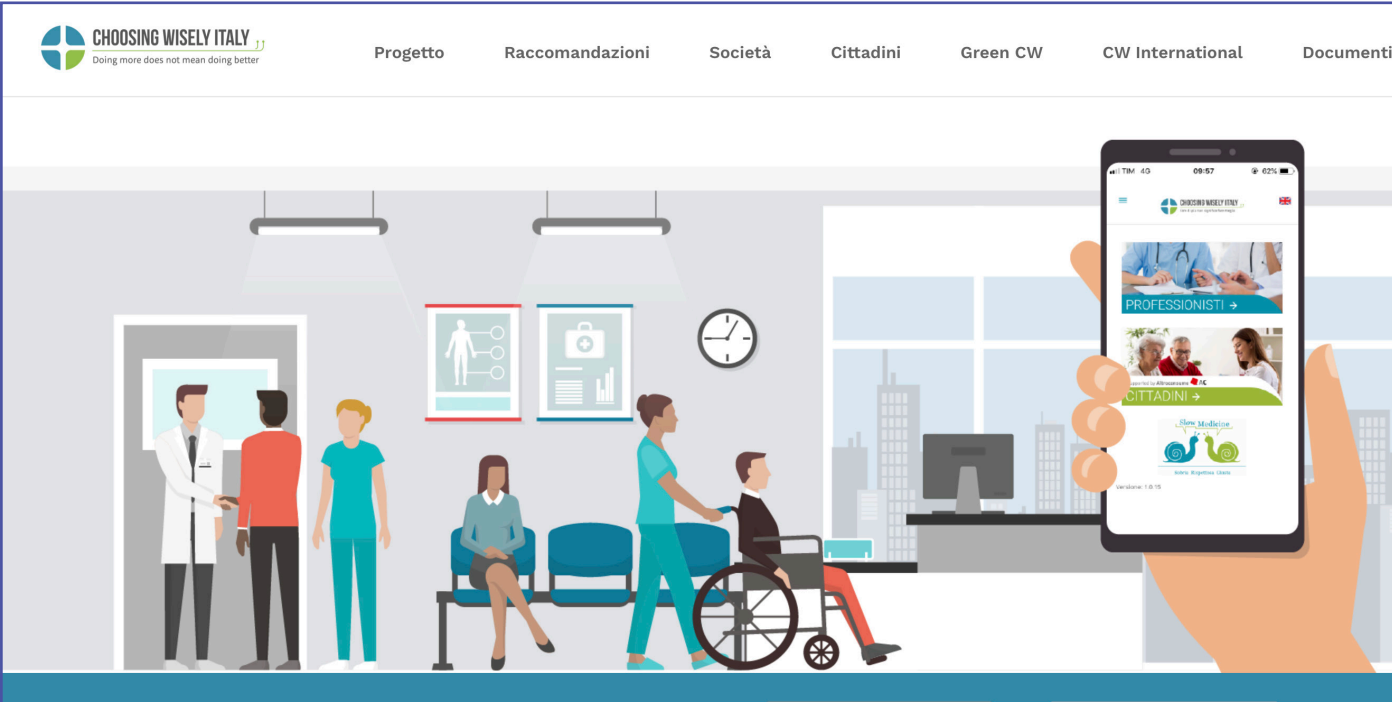
- Return on investment expected within five years.

**To scale:** Conditions needed include regulatory approval, solar resource availability, and financial support.

#### Potential for learning:

- Demonstrates the feasibility and benefits of renewable energy adoption in healthcare facilities.
- Provides a model for other institutions to reduce carbon footprint and energy costs.
- Highlights the importance of sustainability initiatives in mitigating climate change impacts.

## CHOOSING WISELY ITALY



The image shows a screenshot of the 'Choosing Wisely Italy' website. At the top, there is a navigation menu with the following items: Progetto, Raccomandazioni, Società, Cittadini, Green CW, CW International, and Documenti. Below the menu is a large illustration of a hospital waiting area. A doctor in a white coat is talking to a patient in a red shirt. A nurse in a blue uniform is standing nearby. A woman is sitting on a blue chair, and a man in a wheelchair is being pushed by a nurse. In the background, there are medical posters on the wall and a clock. On the right side, a hand is holding a smartphone that displays the 'Choosing Wisely Italy' app interface. The app has two main sections: 'PROFESSIONISTI' (Professionals) and 'CITTADINI' (Citizens). The app also features the 'Slow Medicine' logo and the text 'Slow Medicine ETS'.

**TARGET GROUPS:** *Physicians, Health practitioners & organisations*

**AIMS TO IMPROVE THE SUSTAINABILITY BY AVOIDING UNNECESSARY PROCEDURES**

**General Data:** Choosing Wisely Italy, Italy, Management and sustainability strategy.

**Description:** The BMJ has launched a vital campaign to combat the climate crisis by promoting sustainable healthcare practices.

In Italy, the “Choosing Wisely Italy” project, inspired by its American counterpart and led by Slow Medicine ETS, encourages dialogue among healthcare professionals, patients, and citizens to avoid unnecessary medical procedures, enable smarter prescribing for environmental and patient benefits, as well as reduce healthcare’s carbon footprint.

The BMJ series provides concrete examples and studies on sustainable practices, such as the judicious prescription of iron replacement therapy and measures to cut waste and nitrous oxide emissions. These efforts aim to decrease the environmental impact of pharmaceuticals that constitute about 25

% of healthcare’s carbon footprint and support low-carbon healthcare systems through smarter prescribing and deprescribing.

The initiative seeks to inspire healthcare workers globally to embrace sustainable practices for the benefit of patients and the planet, highlighting the power of informed, wise choices in reducing healthcare’s environmental impact.

**Results:** 25 % of healthcare’s carbon footprint (planned).

**To scale:** Condition needed includes the creation of a network of organisations

and professionals, who are sensitive and open to behavioural change.

**Potential for learning:** Eliminating unnecessary practices benefits both people’s health and the sustainability of the health sector.

## PARACETAMOL CHALLENGE



# GROEN IS DOEN GA VOOR ORAAL

## PARACETAMOL DUURZAAM TOEDIENEN

**GIFT: ORAAL 1 gram**

2 tabletten in blister | beker | 30 ml water



36 gram



0,07



5 gram



**TARGET GROUPS:** *Nurses, Doctors, Pharmacists*

**AIMS TO DECREASE THE IV PRESCRIPTION OF  
PARACETAMOL BY 25 %**

**General Data:** Erasmus MC, Netherlands, Management and sustainability strategy.

**Description:** Introduced by Erasmus MC, the paracetamol challenge is a challenge in which hospitals get a big, life sized model of paracetamol medication (pill). The goal is to reduce the amount of IV (intravenous) paracetamol prescribed with 25 %, compared to the level prescribed before the challenge.

Such a reduction has many advantages; Reducing the amount of IV (intravenous) paracetamol prescribed means easier administration, time saved for the healthcare staff, less costs and many times more sustainable outcomes.

**Results:** All participating hospitals (currently, three hospitals have finished the challenge and more are planned) have decreased the IV use of paracetamol by more than 50 %.

**To scale:** Condition needed includes social media platform(s) to inform and inspire other actors to join the challenge.

**Potential for learning:** The idea is successful because of the playful visualisation that the big, life sized model paracetamol pill used represents a model which extensively incentivises people.