

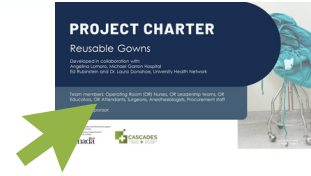
SUSTAINABLE PERIOPERATIVE CARE

Project Charter Summary

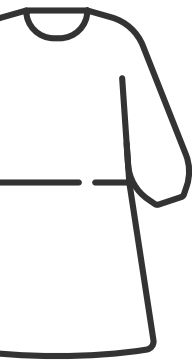
SUBSTITUTE REUSABLE ALTERNATIVES

Reusable Gowns

Surgical linens are a **major source of operating room (OR) waste**. Single-use gowns—even ones that are in the sterile field but not used—are disposed of at the end of surgery. In comparison, reusable gowns are washed and sterilized for multiple uses, **reducing energy use by 64% and associated greenhouse gas emissions by 66%**.



PROJECT CHARTER: See the full version of the project charter for more change ideas, details, and a complete list of references.



A **2021 analysis in the UK** reported that single-use personal protective equipment resulted in 5,419,004 kg CO₂e of emissions in just six months. In comparison, reusable gowns laundered and re-used 75 times prior to disposal were shown to decrease emissions by two-thirds.

Although the upfront cost of reusable gowns is higher, they are more cost effective in the long term, **without compromising on comfort or protection**.

GOAL: Replace disposable surgical gowns with reusable alternatives to reduce OR waste

PROJECT SCOPE: The perioperative care unit (pre-, intra-, and post-operative procedural gowns)

EMISSIONS SCOPE: Scope 3 (emissions arise from activities or products related to health sector activities, but not owned or controlled by your organization)

ESTIMATING IMPACT

ACTIVITY/OUTCOME METRIC

- 1A. Number of single use gowns disposed of per month
- 2A. Number of reusable gowns disposed of per month

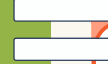
- Source from procurement data or a self-audit.
- Monthly counts are recommended to observe progress, but data can be processed for any given time period.



RELATED ENVIRONMENTAL METRIC

- 1B. 0.31 kg CO₂e/kg per disposable gown
- 2B. 13 kg CO₂e/kg per reusable gown

- Source: [Vozzola et al., 2018](#) (data from a US center which may be imprecise in Canadian contexts).
- Considerations:
 - While individual single-use gowns have a smaller footprint than reusables, each reusable gown can generally be used 75-100 times (with a lower carbon footprint per use).



ENVIRONMENTAL IMPACT

Estimation of total impact in kg CO₂e

- Estimate the kg CO₂e expended for each type of gown (#1A x #1B + #2A x #2B). There should be a reduction in this total, over time, with an increasing proportion of reusable gowns if recirculated correctly.
- Use the [Natural Resources Canada Greenhouse Gas Equivalencies Calculator](#) to translate your results to stakeholders.

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Root Causes and Change Ideas for Reusable Gowns



PLAYBOOK:
View the playbook for other perioperative sustainability opportunities and resources.



VIDEO:
Reusable Gowns with Angelina Lomoro

Infection prevention and control concerns exist from the misbelief that single-use gowns are sturdier and will ensure sterility better than reusable alternatives.

EDUCATION & AWARENESS

- Create an educational campaign for all staff that need to scrub into surgery (e.g., nurses, surgical residents, fellows, and staff) that:
 - Establishes the importance of reusable gowns to planetary health.
 - Dismantles common misconceptions about reusable gowns and surgical site infections.
- Additional resources:
 - [The Ottawa Hospital Reusable Gowns Evaluation](#)
 - [CASCADES' Reusable Gowns Brief](#)
 - [A Life Cycle Assessment of Surgical Gowns \(EcoTex\)](#)

Reusable gowns are often made from Gore-Tex, which can be warm and may present comfort issues. Single-use gowns are often packaged within custom packs, which can be more convenient. Some surgeries necessarily require single use “space suits”, for which reusable alternatives are not readily available.

CLINICAL WORKFLOW

- Establish storage and collection processes to make reusable gowns easy to access before procedures, and easy to return for cleaning afterwards.
- Devise a system where single-use gowns, if available, are only given for special circumstances or to those that require them due to sizing.

Reusable gowns come in limited sizes, which may not fit all staff members, requiring the hospital to retain single-use gowns as an option. The cost of laundering higher quantities of reusable gowns may appear larger than the bulk purchase of single-use gowns.

FINANCES & PROCUREMENT

- Collaborate with procurement and OR departments to purchase reusable gowns and remove single-use gowns from custom packs, ORs, and sterile cores.
- Create a business case to show the cost savings of purchasing and recycling reusable gowns compared to single-use alternatives.
 - Consider partnering with other nearby centers to obtain group contracts for discounted reusable gowns.

Facilities or partnerships must be in place to ensure that reusable gowns are laundered and sterilized between each use.

INFRASTRUCTURE

- Work with laundering staff or a contracted company to implement the cleaning infrastructure necessary to maximize the number of gowns that can be cleaned per load or transport cycle.