

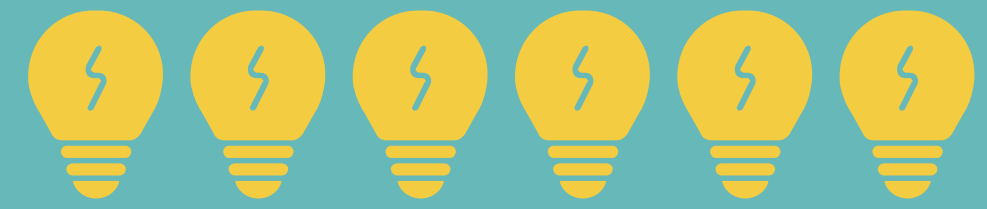


Reducing Operating Room electricity usage

25% of hospital operating costs go towards meeting energy needs*

ORs are **6-times** as energy intensive as other clinical areas §

Due to temperature and humidity control, the use of energy-intensive specialized lighting, anesthesiology equipment, and surgical tools



Equipment including lights and HVAC systems are often left on at all times yet on average ORs are not in use for **40%** of the time ¶

There is scope for significant energy and cost saving with more efficient electricity use

OR space utilization = 60%



1 POWER DOWN INITIATIVES

SWITCH OFF & UNPLUG...

lights, anesthesia machines, computers / monitors, surgical equipment etc.

This can be done in most ORs during nights and weekends

2 LED LIGHTING

Minimal radiant heating for LED lights means reduced cooling requirement vs halogen lighting

Overall LED lights have a **49% reduced** energy load ¶

3 RETROFITTING

Retrofitting of sterilization and medical gas vacuum equipment to improve efficiency.

This requires discussion with engineering team

4 HEALTHCARE DECARBONIZATION

Initiatives might include:

- Powering the OR with 100% renewable energy
- Investment in zero-emission infrastructure
- Transition to zero-emission and sustainable travel and transport

5 OCCUPANCY SENSORS

Motion detectors for lighting / HVAC etc.

6 SOLAR FLIM

When placed on windows, this can reduce heat loss in winter and prevent overheating in summer

7 HVAC SYSTEM REVIEW

Audit efficiency and consider upgrade to more efficient system

8 OTHER

Outside of 'power down' hours, where possible:

- Keep doors closed
- Unplug equipment
- Disconnect vacuum and medical air
- Put computers / monitors in power save mode

BARRIERS TO IMPLEMENTATION

Main barrier:

- Departmental buy-in



BENEFITS

At one US center, a power down initiative for anaesthesia machines, lighting, & computer monitors alone (across 41 ORs), reduced emissions by **> 230 metric tons** - equivalent to the carbon sequestered by almost **280 acres** of forest ¥

COST SAVINGS

These small changes can reduce energy costs by up to **45% ***

Even reducing energy use by under 10% in ORs across the US would see net cost savings of just under **\$1 billion** over a 5 year period #

BUY-IN SOLUTIONS

Identify a 'power down' lead

Nursing staff are well positioned for this role given their responsibility for prepping the OR out-of-hours

Engage staff

Reinforce the idea of water and energy both being resources to be used only when required

Increase awareness

The healthcare sector is responsible for 10% of US emissions - many small gains produce significant positive impact

Real-time monitoring & reporting

e.g. through use of audit / PDSA cycles

Advocate for renewable energy switch

See 'local advocacy hot topic' for tips

