

INTRODUCTION

- The US health care sector produces nearly 10% of the country’s greenhouse gas emissions (GHG) with radiology contributing a large share.
- Radiology PACS stations powered on overnight produce nearly the same annual carbon dioxide emissions as four passenger cars

METHODS

- The author purchased a single plug-in energy watt meter and installed it into a running, unused PACS to measure the energy consumed by the station
- The amount of energy consumed (in kWh) by the unused station was recorded
- Estimated carbon footprint and costs were calculated (2.362 lbs CO₂e/ kWh per USEIA and \$.1808/kWh per NYSERDA)
- Once the potential for savings was confirmed, the IT department implemented a system-wide power-consumption saving initiative to put PACS station monitors in sleep mode after a period of 60 minutes of inactivity
- The amount of energy consumed by the same PACS station was recorded after implementation of this setting

RESULTS

- A single unused PACS station consumed 2.757 kWh of energy while left running unused overnight
- Therefore, a single unused PACS station produces 2.632 lbs CO₂e overnight and costs \$.4984 per night.
- The same PACS station consumed 1.146 kWh of energy after the settings were adjusted to put the screens into sleep mode after a period of 60 minutes of inactivity.
- The station now produces 0.982 lbs CO₂e and costs \$.2071 per night.

Before Intervention	After Intervention
2.362 lbs CO ₂ e per unused station overnight	0.982 lbs CO ₂ e per unused station overnight
\$.04984 per unused station overnight	\$.02072 per unused station overnight

CONCLUSIONS

- The Radiology IT department implemented a system-wide protocol for PACS workstation monitors to enter sleep mode without any negative consequences
- This change produces 1.38 lbs CO₂e less and saves \$.2912 per station overnight. Across 620 stations throughout the Northwell system, this initiative could save Northwell \$180.544 and produce 855.6 lbs CO₂e less per night.
- Consuming less energy by switching the PACS monitors to sleep mode can significantly decrease the carbon footprint of our radiology department and result in cost savings for Northwell Health.

REFERENCES

- McCarthy, C. J., Gerstenmaier, J. F., O’ Neill, A. C., McEvoy, S. H., Hegarty, C., & Heffernan, E. J. (2014). “EcoRadiology”—Pulling the Plug on Wasted Energy in the Radiology Department. *Academic Radiology*, 21(12), 1563–1566. <https://doi.org/10.1016/j.acra.2014.07.010>
- Schoen, J., McGinty, G. B., & Quirk, C. (2021). Radiology in Our Changing Climate: A Call to Action. *Journal of the American College of Radiology*, 18(7), 1041–1043. <https://doi.org/10.1016/j.jacr.2021.02.009>