



24 Sustainability Success Stories in 2024

Story 16 of 24: Surgical Service Line and Sustainability

From Pipe to Tank: UPMC Jameson Leading the Way with a Sustainable Shift

Did you know that nitrous oxide is an anesthetic agent and a greenhouse gas 300 times more potent than carbon dioxide (CO₂) in causing global warming?

UPMC Jameson is helping UPMC become greener by moving away from a traditional piped nitrous oxide (N₂O) system to a more environmentally responsible tank system.

Traditionally, N₂O arrives in operating rooms from large tanks centrally located and distributed by a pipe system that runs through the inner workings of hospital buildings. One of the caveats of this N₂O delivery method is the significant amount of gas that leaks into the atmosphere through the pipes and valves in the walls before reaching the patient. These leaks account for up to 95% of the gas purchased and contribute to global warming and damage to the Earth's ozone layer.

With both sustainability and high-quality patient care in mind, UPMC Jameson transitioned from a piped-in system to portable N₂O tanks in the operating room in 2016. At UPMC Jameson, they removed the N₂O pipes. The removal of the pipes prevents leaks and allows for better inventory control, also reducing the costs associated with nitrous oxide.

To make this change work, the transition to portable tanks was carefully managed during a period of construction at UPMC Jameson, and the pipes were then removed. Pediatric care is now delivered in select rooms equipped with portable N₂O tanks, ensuring the system is used effectively without compromising patient care, safety, or efficiency.

"We've effectively transitioned from a piped system to small tanks, which not only enhances our sustainability efforts but also aligns with our financial objectives. The switch was made smoothly by adapting our existing infrastructure to support this more efficient delivery method," said **Jamie Murray**, operating unit director at UPMC Horizon and UPMC Jameson.

The [UPMC Center for Sustainability](#) is excited about the positive impact this change has already made. UPMC Jameson is leading the way for other UPMC hospitals to transition from piped to tank-delivered N₂O as UPMC continues its efforts to improve environmental sustainability and operational efficiency.

Stay tuned for more updates on this project and other sustainable changes happening at UPMC. Your support and engagement are vital as we work towards a greener and more efficient future.

Visit us, follow us, share comments, ideas, and questions through our [UPMC Center for Sustainability Viva Engage page](#).