Nitrous Oxide Waste Reduction Project

Briefing Note

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Adapted from and used with permission from Sunnybrook Health Sciences Centre, Toronto, Ontario, Canada
Template prepared by Danette Beechinor and Eric Cohen

Instructions on Using this Template

- Please feel free to use and share this briefing note template. It is designed to be used and modified according to your needs.
- When using the briefing note, it is important to consider who is your audience and what is it you are ASKING from the audience. – As such, we have prepared the general background slides, using the popular SBAR (Situation, Background, Assessment and Recommendation) format.
- The idea is to enter your own data, and calculations on your greenhouse gas emissions. How to do this is in the “NOTES” for the slides. Anything red or orange is designed for you to insert your information – but you are welcome to change anything else to meet your needs as well.
- The last slide, the “Recommendation” is the slide where you put your request and be specific about what you want from the audience. We have provided several options as examples, but we encourage you to use customize to your own needs

Situation

- Nitrous Oxide(N2O) is a potent greenhouse gas.
- Based on purchase data, [our institution] has consumed [x] Kg of N2O since [2017].

BACKGROUND

- Nitrous oxide is persistent, remaining in the atmosphere and contributing to global warming for over 100 years.
- Globally, nitrous oxide accounts for about 7% of all greenhouse gases and comes from many sources including medical gases.
- Nitrous oxide contributes 75% of the global medical greenhouse gas footprint.
- **Leaks**
  - Lothian district of Scotland reduced N2O consumption by 75-100% per institution through addressing infrastructure and leakage **
  - Providence Health and Services determined that 95-98% of their medical N2O was wasted through leaks. By switching to smaller tanks in their OR and procedure rooms, they decreased this to less than 1%. *

** https://sustainablehealthcare.org.uk/what-we-do/sustainable-specialties/anaesthetics/nitrous-oxide-project
* https://news.bloomberglaw.com/pharma-and-life-sciences/hospitals-curbing-emissions-switch-anesthesia-gases-plug-leaks

Assessment

- Given the [anecdotally reported low usage at XXXXXXXXXX] and [the aging infrastructure] it is likely that N2O waste is a significant source of the N2O consumption at [XXXXXXXX].
- The {5-year XXXXXX] Kg of N2O consumed represents the equivalent of **driving *[use link below to calculate xxxxxxxx] kilometres** in a car
- Offsetting this would mean planting **xxxxxx tree seedlings and letting them grow for 10 years.*****

*https://oee.nrcan.gc.ca/corporate/statistics/neud/dpa/calculator/ghg-calculator.cfm?_gl=1*1t989z7*_ga*MjA1NTk4MjQ3OC4xNjcxMDI1Mjlz*_ga_C2N57Y7DX5*MTY3MTAyNTIyMi4xLjAuMTY3MTAyNTIyMi4wLjAuMA..

**https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator#results

The next slide will be your “Recommendation Slide, this one should be customized to your audience

FOR SENIOR TEAM Recommendation

- Add nitrous oxide waste reduction to [the hospital QIP]
- Develop a work plan which includes:
  - Assessment of nitrous oxide clinical use to compare to consumption
  - Assessment of nitrous oxide infrastructure and regular testing for leaks
  - Sealing the leaks if found and/or switching to smaller tanks next to the location of use in order to reduce leaks and waste.
  - Collaboration between clinical operations and plant operations to reduce waste
  - **THERE IS NO request to eliminate use of N2O from the hospital – this project focuses on waste reduction**

FOR THE OPERATING ROOM EXEC:

RECOMMENDATION

- Awareness of: Assessment of nitrous oxide infrastructure and regular testing for leaks
- IF leaks cannot be sealed, support in principle for switch to tanks closer to point of use.
- Support in principle for reduction of N2O **waste** and Assign a LEAD to the project from the OR teams
- Support for education to learners and staff re:N2O Global Warming Potential
- Support for data collection to determine types of cases where N2O used and mean volume per case (Assessment of nitrous oxide clinical use to compare to consumption)
- **THERE IS NO request to eliminate use of N2O from the hospital – this project focuses on waste reduction**

For the Womens and Babies Program

Recommendation

- Awareness of: Assessment of nitrous oxide infrastructure and regular testing for leaks
- IF leaks cannot be sealed, support in principle for switch to tanks closer to point of use.
- Support in principle for reduction of N2O **waste**
- Assign a LEAD to the project from the W&B team to ensure W&B perspective
- Support for education to learners and staff re:N2O Global Warming Potential
- Support for data collection to determine types of cases where N2O used and mean volume per case (Assessment of nitrous oxide clinical use to compare to consumption)
- **THERE IS NO request to eliminate use of N2O from the hospital – this project focuses on waste reduction**

For Dentistry

Recommendation

- Awareness of: Assessment of nitrous oxide infrastructure and regular testing for leaks
- IF leaks cannot be sealed, support in principle for switch to tanks closer to point of use.
- Support in principle for reduction of N2O **waste**
- Assign a LEAD to the project from the Dental teams to represent dentistry and Educate within the program
- Support for education to learners and staff re:N2O Global Warming Potential
- Support for data collection to determine types of cases where N2O used and mean volume per case (Assessment of nitrous oxide clinical use to compare to consumption)
- ???
- **THERE IS NO request to eliminate use of N2O from the hospital - this project focuses on waste reduction**

*For Plant Operations/Maintenance **** (ESSENTIAL PARTNER)****

Recommendations

- Awareness of: Assessment of nitrous oxide infrastructure and regular testing for leaks
- IF leaks cannot be sealed, support in principle for switch to tanks closer to point of use.
- Active Support for reduction of N2O **waste**
- Assign a LEAD to the project from plant operations who will help with arranging the testing for leaks and help set up and monitor a testing schedule to ensure ongoing maintenance and verification of leaks.
- A plan to address leaks if and where found, in order to reduce escape of N2O to the atmosphere.
- Support in principle to switch to a system of non-plumbed N2O tanks if it is is discovered that sealing leaks is not feasible.
- Liaison with N2O vendor
- **THERE IS NO request to eliminate use of N2O from the hospital - this project focuses on waste reduction**

Others?

- You will need to determine who the stakeholders are in your institution.
- Communication, and avoiding miscommunication will be essential
- Very short briefing notes, with a compelling story of how many Km and how many trees are a great way to get people's attention, and making it very clear what you are requesting from the group.

- GOOD LUCK !