



'I have no potential conflicts of interest to report'

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Hans van der Maarel/Red Geographics

Topics

- Take a step back
- Zoom back in
- From footprint to handprint

"Earthrise", NASA, 1968

World population

8 billion 2023?

2011

1999

1987

1974

1960

1930

1804

7 billion

6 billion

5 billion

4 billion

3 billion

2 billion

1 billion

0

1800 1900 2000 2021

South America

North America

Europe

Africa

Asia

China

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<http://www.ourworldindata.org>

Seafood and meat consumption after 1960

Meat consumption

Seafood consumption

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<http://www.ourworldindata.org>

Sustainability =

- Meeting the needs of the present
- While not compromising possibilities in the future

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Country Overshoot Days 2022

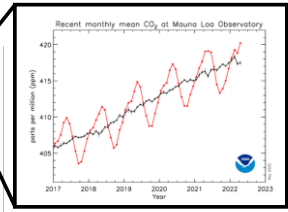
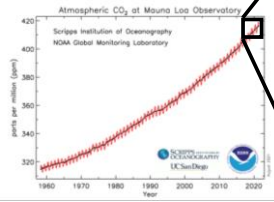
When would Earth Overshoot Day land if the world's population lived like...



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<http://www.overshootday.org>

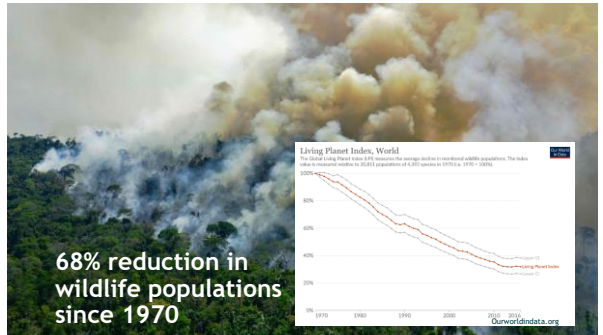
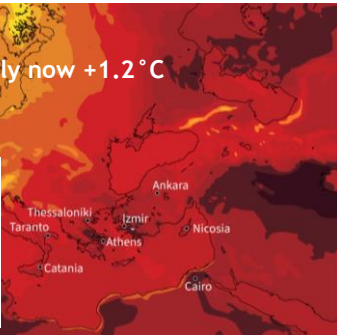
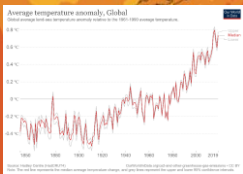
July 2022: 418.90 ppm
July 2021: 416.96 ppm
Last updated: August 5, 2022



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Mauna Loa Observatory (Hawaii)

Temperature anomaly now +1.2 °C



68% reduction in wildlife populations since 1970

Why care as physician?

- Climate change is a public health threat

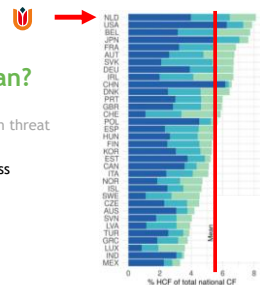


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Watts et al. Lancet (2018)

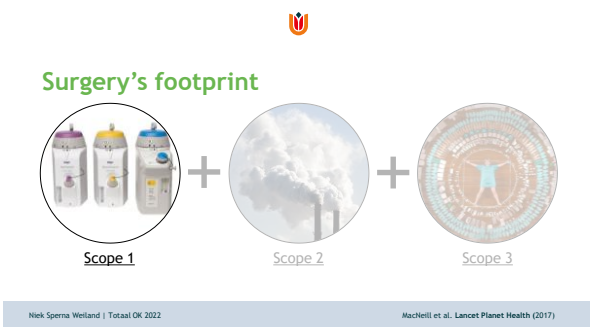
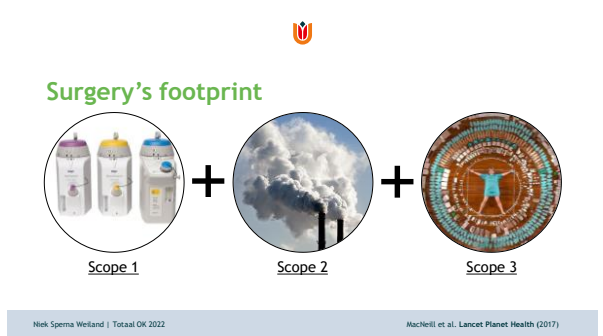
Why care as physician?

- Climate change is a public health threat
- Health care is a polluting business



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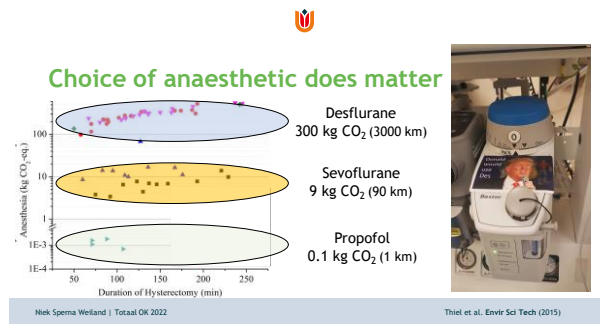
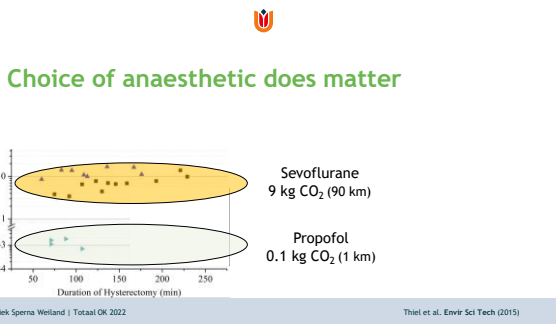
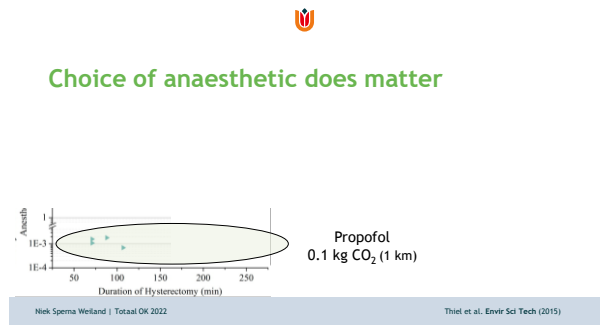
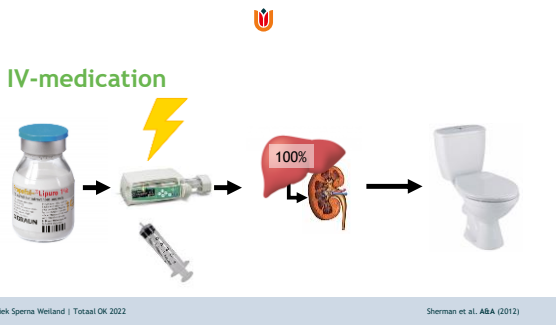
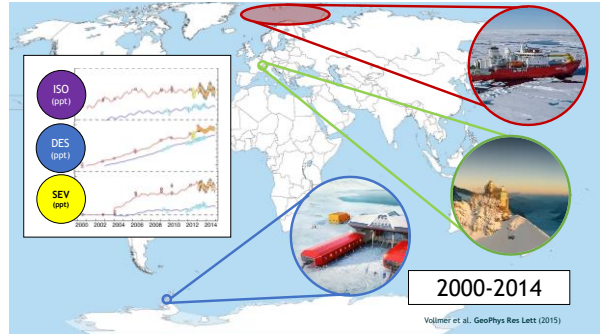
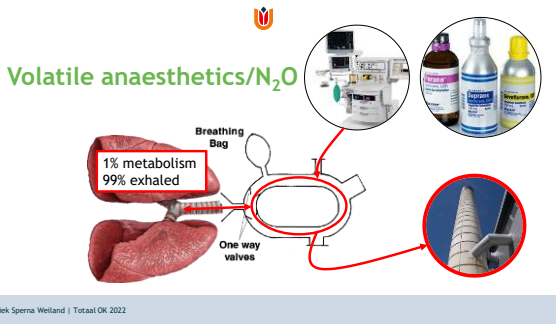
Watts et al. Lancet (2018)
Pichler. Envir Res Lett (2019)



CO₂-equivalents (GWP₂₀)

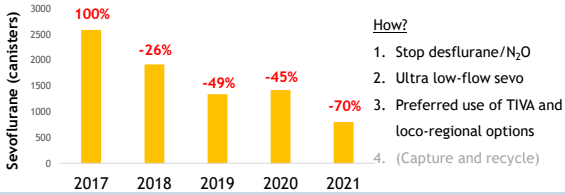
CO ₂	= 1
Methane	= 86
N ₂ O	= 289
SEVO	= 440
ISO	= 1800
DES	= 6810

Sulbaek Andersen et al. ABA (2012)





Practice what you preach @Amsterdam UMC



- How?**
1. Stop desflurane/N₂O
 2. Ultra low-flow sevo
 3. Preferred use of TIVA and loco-regional options
 4. (Capture and recycle)

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Desflurane is soon to be prohibited in the EU



Proposed for a
REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL
on fluorinated greenhouse gases, amending Directive (EU) 2015/1817 and repealing
Regulation (EU) No 95/2014

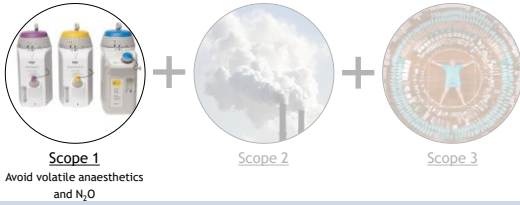
The use of **desflurane** as inhalation anaesthetic is prohibited as from **1 January 2026**, except when such use is strictly required and no other anaesthetic can be used on medical grounds. The user shall provide evidence, upon request, on the medical justification to the competent authority of the Member State and the Commission.

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EU proposal on F-gases (2022/0099/COD)



Surgery's footprint

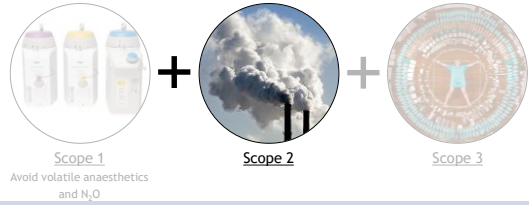


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MacNeill et al. Lancet Planet Health (2017)



Surgery's footprint



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MacNeill et al. Lancet Planet Health (2017)



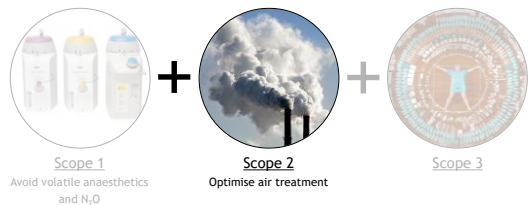
Optimize air treatment

-360.000 kWh y⁻¹

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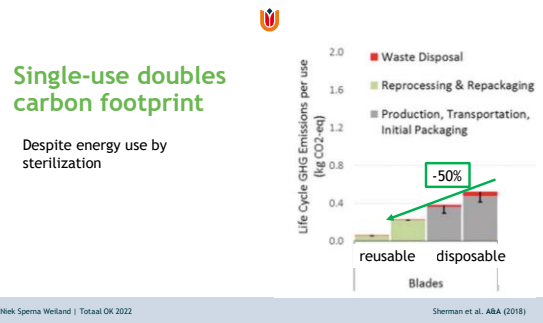
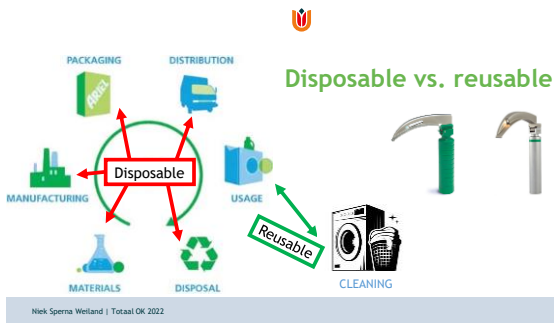
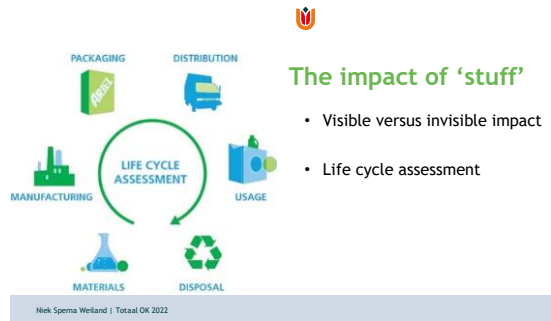
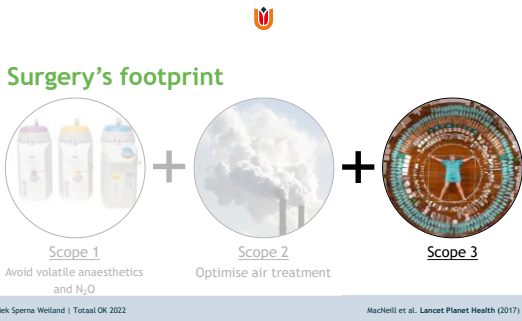


Surgery's footprint



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MacNeill et al. Lancet Planet Health (2017)



REDUCE

REUSE

RECYCLE

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-60% CO₂-eq

 **REUSE**

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 **RECYCLE**

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"We are the first generation to feel the impact of climate change and the last generation that can do something about it."



So enjoy increasing your HANDprint!

 Niek Sperna Weiland

 N.H.SpernaWeiland@AmsterdamUMC.nl

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