GHG EMISSION FOOTPRINT 2020-21 BASELINE INVENTORY

Mercy Health
Care first

Jenny Smith – Executive Director Strategy, Planning & Major Projects

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ABOUT MERCY HEALTH

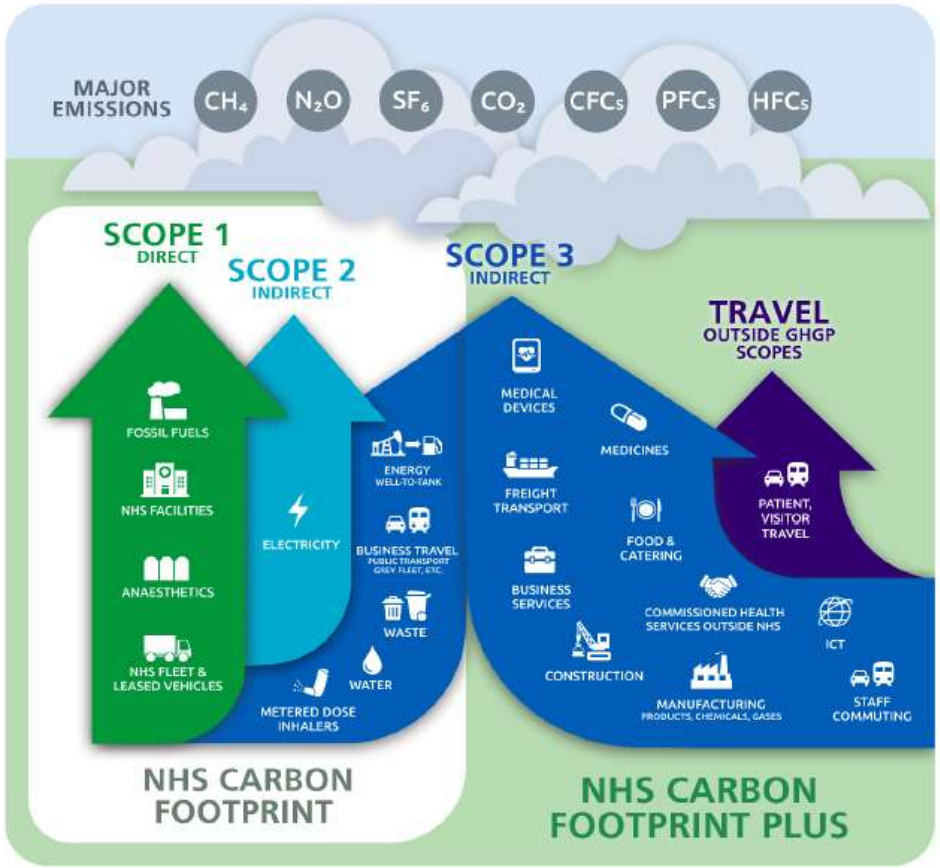
- Catholic provider health and aged care services
- 10 Health Services sites (~820 Operational Points of Care; acute, sub acute, mental health)
- 30 Residential Aged Care and Independent Living sites (~2,500 Aged Care beds)
- 4 states (Victoria, NSW, QLD, WA).
- ~10,000 employees
- Caring for people and planet strategy

GUIDING QUESTIONS?

- Scope 1 & 2: visibility with NGERS reporting
- Scope 3: visibility = zero

- Questions:
  - *What is Mercy Health's full carbon footprint?*
  - *What is the proportional composition?*
  - *Does this differ across Aged Care and Health Services? How?*
  - *What are our key hotspots?*

- Methods
  - *How would we calculate our full emissions profile?*



NHS LEADERSHIP

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Health care's response to climate change: a carbon footprint assessment of the NHS in England

Imogen Tennison, Sonia Roschnik, Ben Ashby, Richard Boyd, Ian Hamilton, Tadj Oreszczyn, Anne Owen, Marina Romanello, Paul Ruyssevelt, Jodi D Sherman, Andrew Z P Smith, Kristian Steele, Nicholas Watts, Matthew J Eckelman

Summary

Background Climate change threatens to undermine the past 50 years of gains in public health. In response, the National Health Service (NHS) in England has been working since 2008 to quantify and reduce its carbon footprint. This Article presents the latest update to its greenhouse gas accounting, identifying interventions for mitigation efforts and describing an approach applicable to other health systems across the world.

Methods A hybrid model was used to quantify emissions within Scopes 1, 2, and 3 of the Greenhouse Gas Protocol, as well as patient and visitor travel emissions, from 1990 to 2019. This approach complements the broad coverage of top-down economic modelling with the high accuracy of bottom-up data wherever available. Available data were backcasted or forecasted to cover all years. To enable the identification of measures to reduce carbon emissions, results were disaggregated by organisation type.

Findings In 2019, the health service's emissions totalled 25 megatonnes of carbon dioxide equivalent, a reduction of 26% since 1990, and a decrease of 64% in the emissions per inpatient finished admission episode. Of the 2019 footprint, 62% came from the supply chain, 24% from the direct delivery of care, 10% from staff commute and patient and visitor travel, and 4% from private health and care services commissioned by the NHS.

Lancet Planet Health 2021; 5: e84–92

See Comment page e66

NHS England & NHS Improvement, London, UK (I Tennison MEng, S Roschnik MSc); **Arup Group, London, UK** (B Ashby MEng, R Boyd MEng, K Steele EngD); **UCL Energy Institute** (I Hamilton PhD, Prof T Oreszczyn PhD, Prof P Ruyssevelt PhD, A Z P Smith MSc) **and Institute for Global Health** (M Romanello PhD, N Watts MBBS), **University College London, London, UK;**

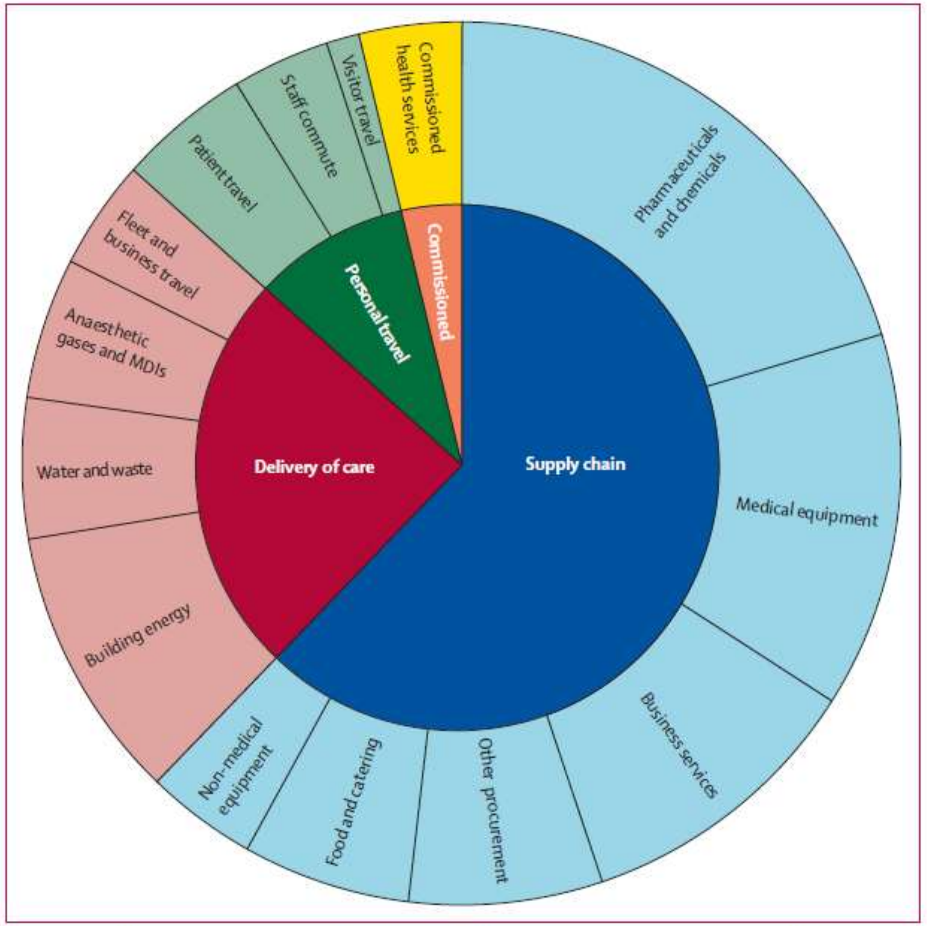


Figure 4: Contribution of different sectors to the greenhouse gas emissions of the NHS England, 2019

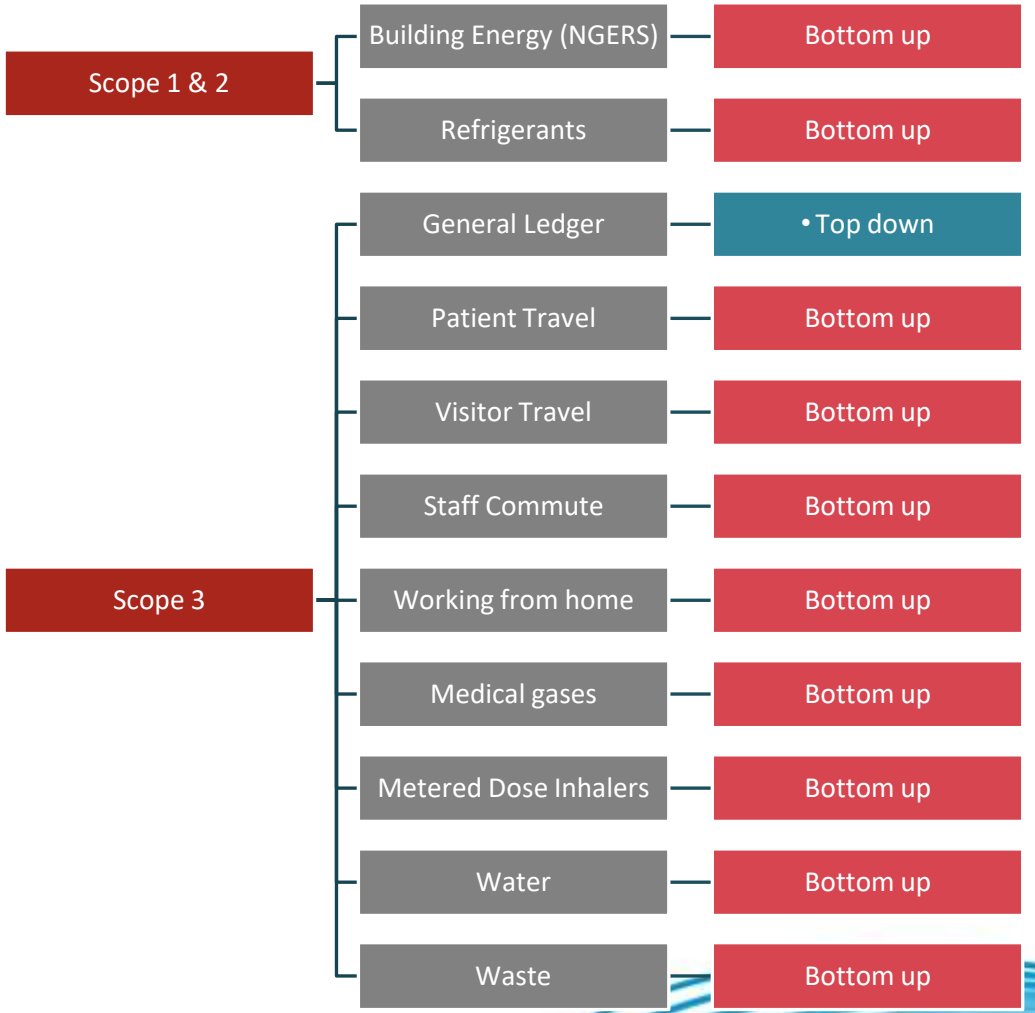
WHAT WOULD WE DO?

- NHS categories x 4 (Tennison, 2021)
- Carbon accounting framework / processes
- Top down / bottom up
- Mercy Health, key portfolios, BUs

Level 0 Category	Level 1 Category	Emissions Scope
Supply Chain	• Pharmaceuticals and Chemicals • Medical Equipment • Business Services • Other Procurement • Food and Catering • Non-medical Equipment	Scope 3
Delivery of Care	• Building Energy – Gas • Building Energy - Refrigerants • Fleet and Business Travel	Scope 1
	• Building Energy - Electricity	Scope 2
	• Water and waste • Anaesthetic Gases and MDIs • Working from home	Scope 3
Personal Travel	• Patient travel • Staff commute • Visitor travel	Scope 3
Commissioned	• Commissioned Health Services	Scope 3

HOW WOULD WE DO IT?

- Define base year: FY21
- Establish emissions boundary: all Mercy Health
- Identify data sources & calculation approach
- Collect data on emission sources
- Calculate the carbon account
- Report



KEY BASELINE FINDINGS – ALL MERCY HEALTH FY21

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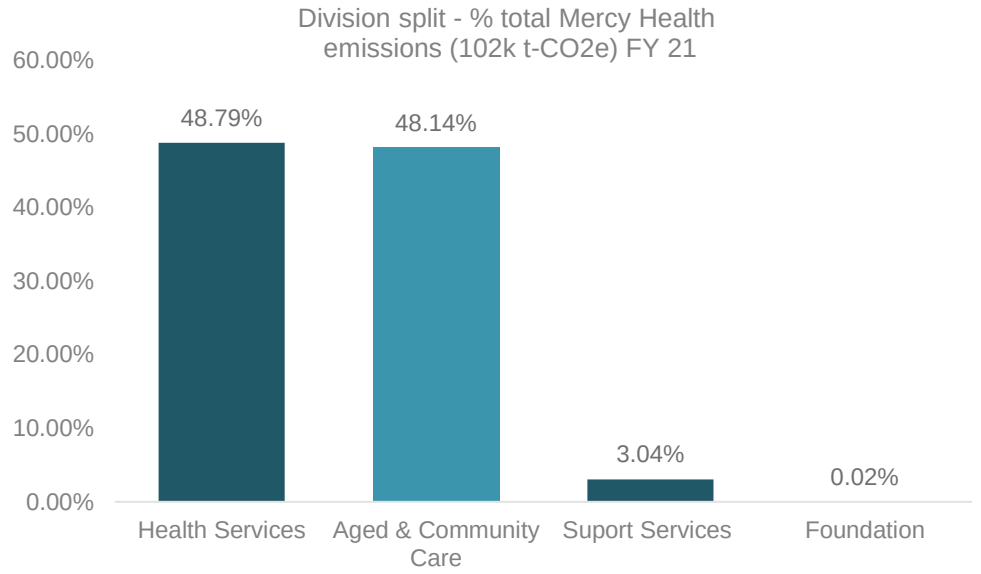
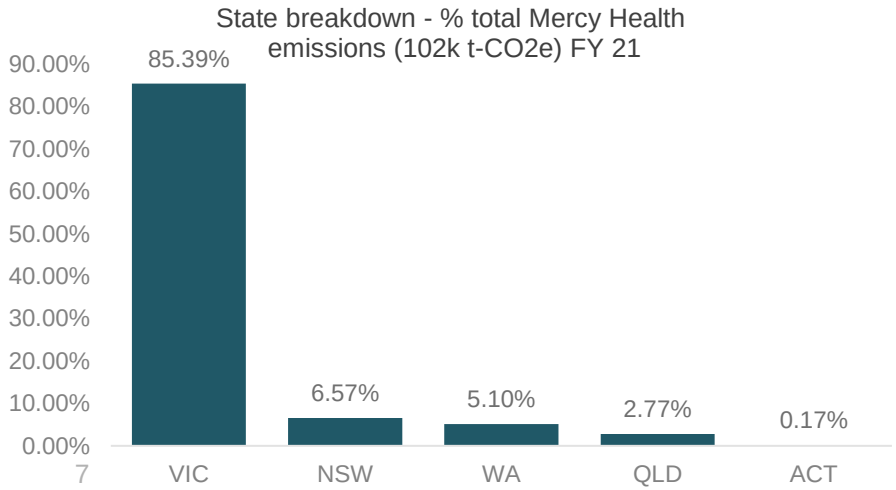
Total emissions 102k t-CO2e

Scope 3 emissions 64%
1=6% / 2=30%





Werribee Mercy Hospital 26%

Mercy Hospital for Women 17%

Mercy Place Montrose 3%

Mercy Place Parkville 2%

BASELINE - ALL MERCY HEALTH

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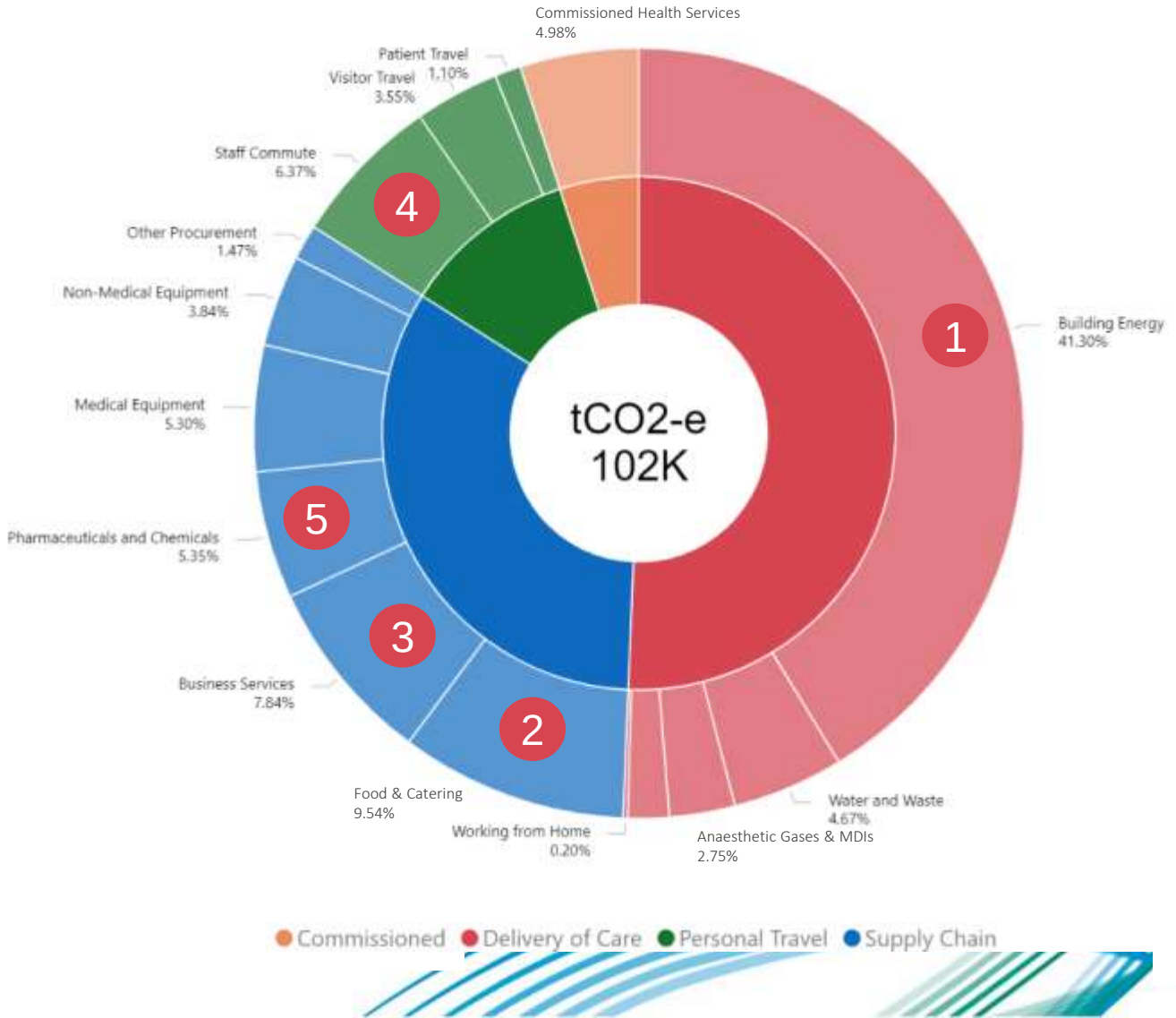
Key Category	NHS	MH Total
Delivery of Care	24%	51%
Supply Chain	62%	33%
Personal Travel	10%	11%
Commissioned	4%	5%

Top 5 carbon hot spots	% MH FY 21
Building energy (Elect/Gas/Refrig)	41%
Food & Catering	10%
Business services	8%
Staff commute	6%
Pharmaceuticals & chemicals	5%



BASELINE - HEALTH SERVICES

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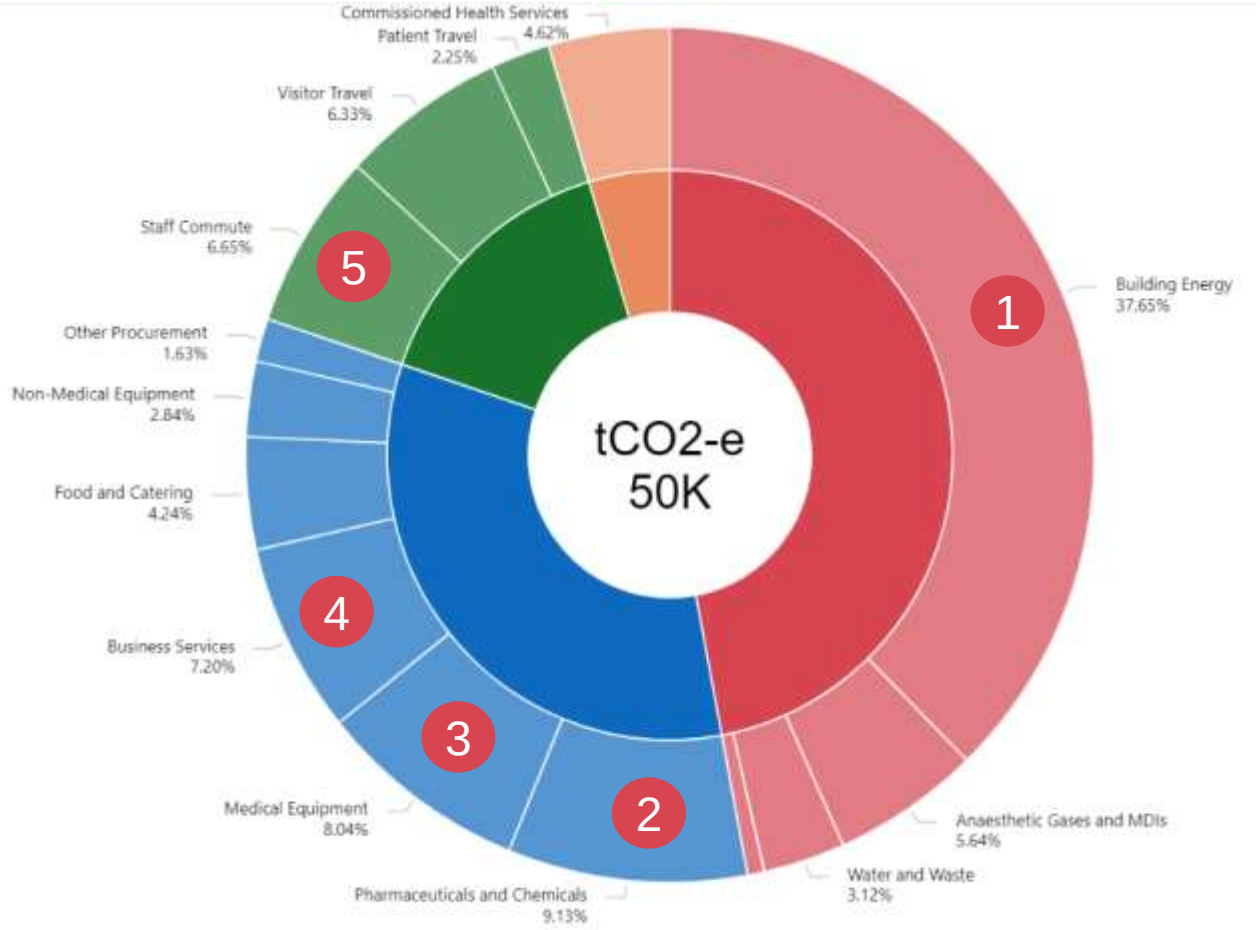
Carbon hot spot impacts (Top emission contributors)	HS FY 21 %
Building energy (Elect/Gas/Refrig)	38%
Pharmaceuticals & Chemicals	9%
Medical Equipment	8%
Business Services	7%
Staff Commute	6%
Other	32%
Total	100%

Category	NHS	HS Total	
Delivery of Care	24%	47%	↑
Supply Chain	62%	33%	↓
Personal Travel	10%	15%	↑
Commissioned HS	4%	5%	



COMPARISON X4 KEY CATEGORIES

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Category	NHS	MH Total	HS Total	AC Total	SS Total
Delivery of Care	24%	51%	47%	56%	22%*
Building Energy	*10%*	*41%*	*38%*	*47%*	*11%*
Supply Chain	62%	33%	33%	31%	78%
Personal Travel	10%	11%	15%	11%	1%
Commissioned HS	4%	5%	5%	7%	0%

*SS Delivery of Care = Building Energy, Travel, WFH

Categories 0 & 1

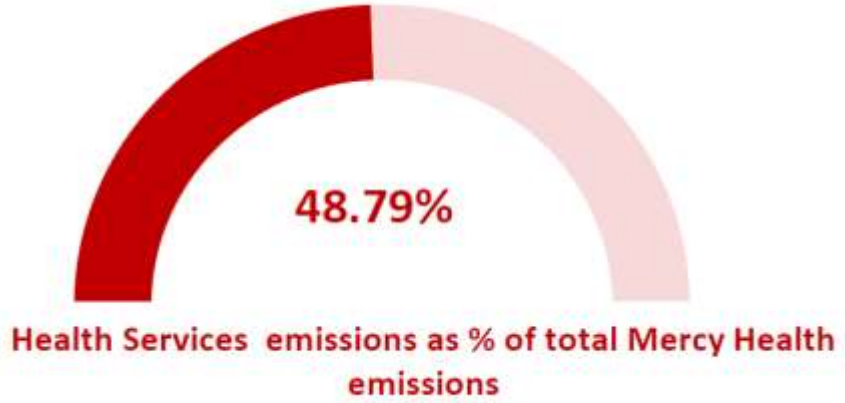
Delivery of Care
- Anaesthetic Gases and MDIs
- Building Energy
- Fleet and Business Travel
- Water and Waste
- Working from Home

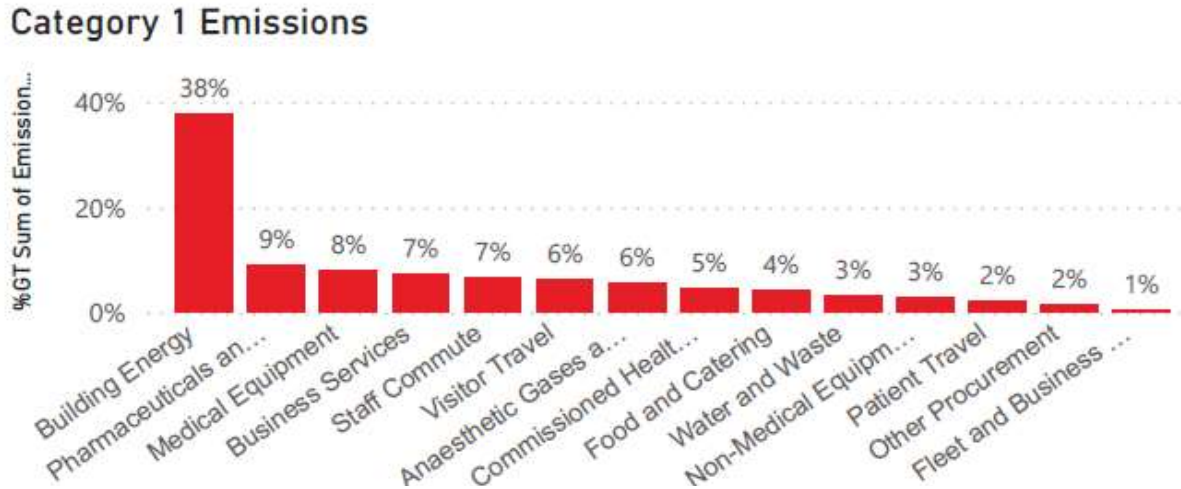
Supply Chain
- Business Services
- Food and Catering
- Medical Equipment
- Non-Medical Equipment
- Other Procurement
- Pharmaceuticals and Chemicals

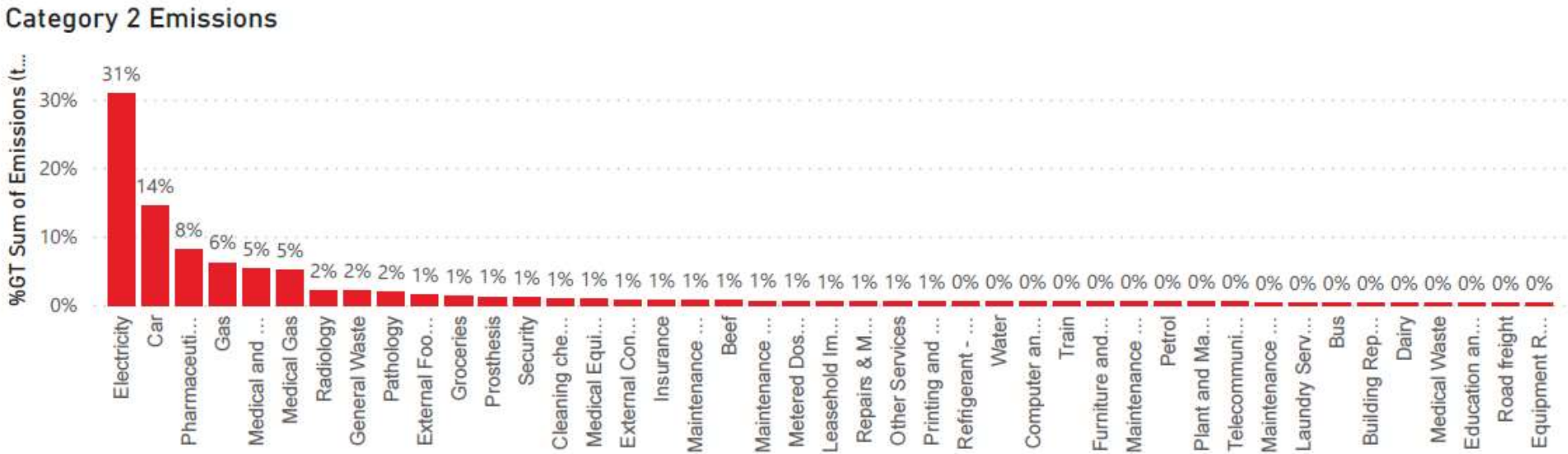
Personal Travel
- Patient Travel
- Staff Commute
- Visitor Travel

Commissioned Health Services
- Commissioned Health Services

BASELINE – ALL HEALTH SERVICES



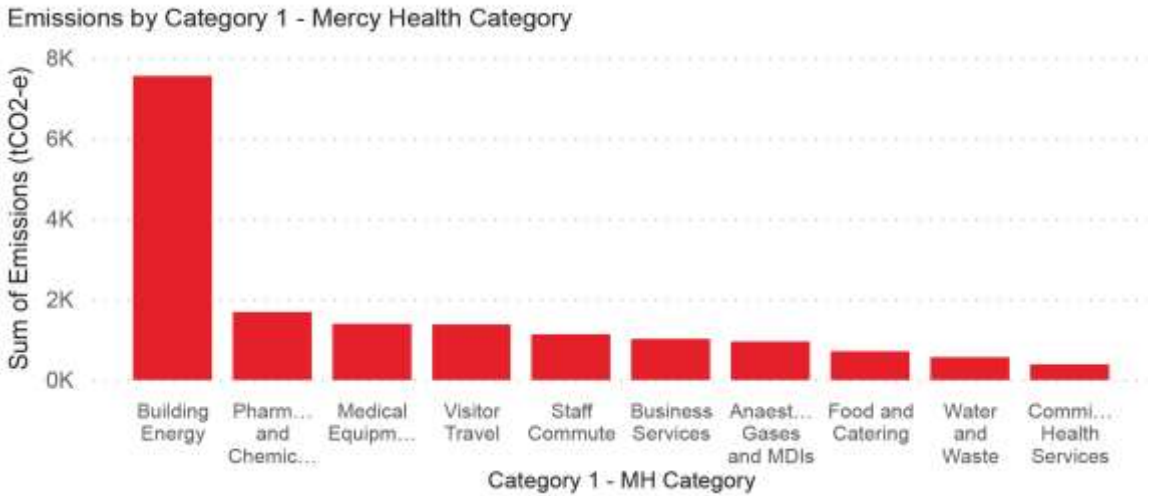


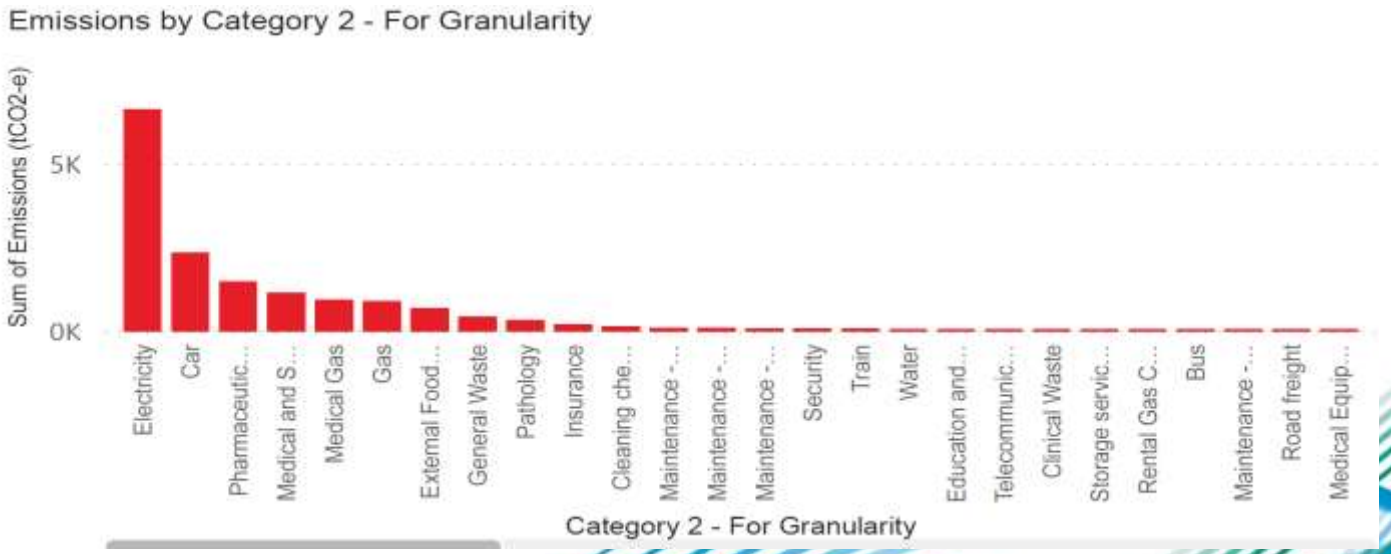


BASELINE – MHW

MHW emissions as % of total Health Services emissions

MHW emissions as % of total Mercy Health emissions





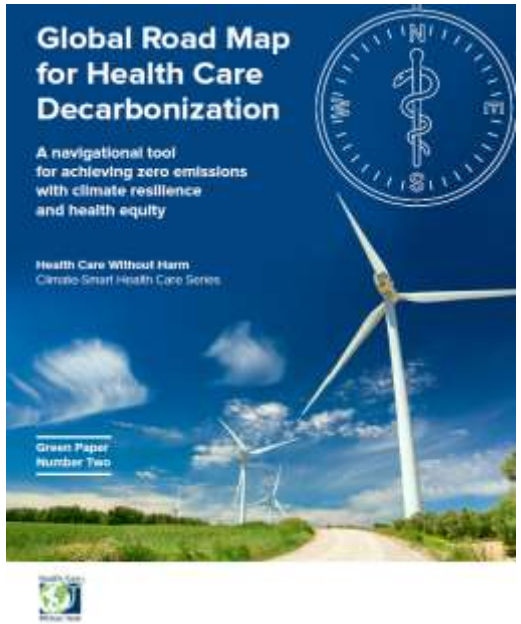
LESSONS

- Energy consumption requires urgent attention across all Mercy Health
- Different areas of the business will require different approaches – now evidence based
- Data collection challenges
- Refinement as we repeat for FY 22 and FY 23 (e.g. Waste, Travel)

NEXT STEPS

- 7 high impact areas
- Net Zero trajectory models

- Internal communication
- Hot Spot plans



1. Power health care with 100% clean, renewable, electricity
2. Invest in zero emissions buildings and infrastructure
3. Transition to zero emissions, sustainable, travel and transport
4. Provide healthy, sustainably grown, food and support climate-resilient agriculture
5. Incentivize and produce low carbon pharmaceuticals
6. Implement circular health care and sustainable health care waste management
7. Establish greater health system effectiveness

INTERVENTION EXAMPLE: ELECTRICITY

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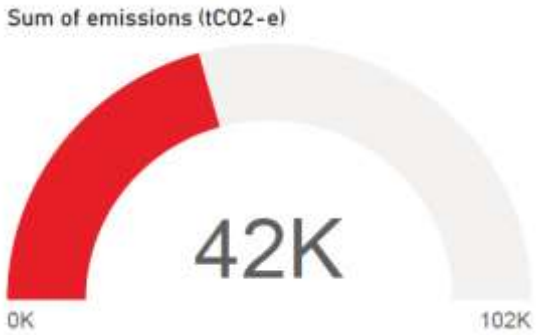
- **HCWH high impact area 1: Power care with 100% clean, renewable electricity**

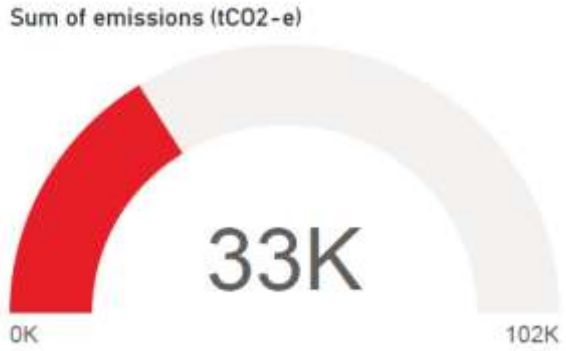
Building Energy

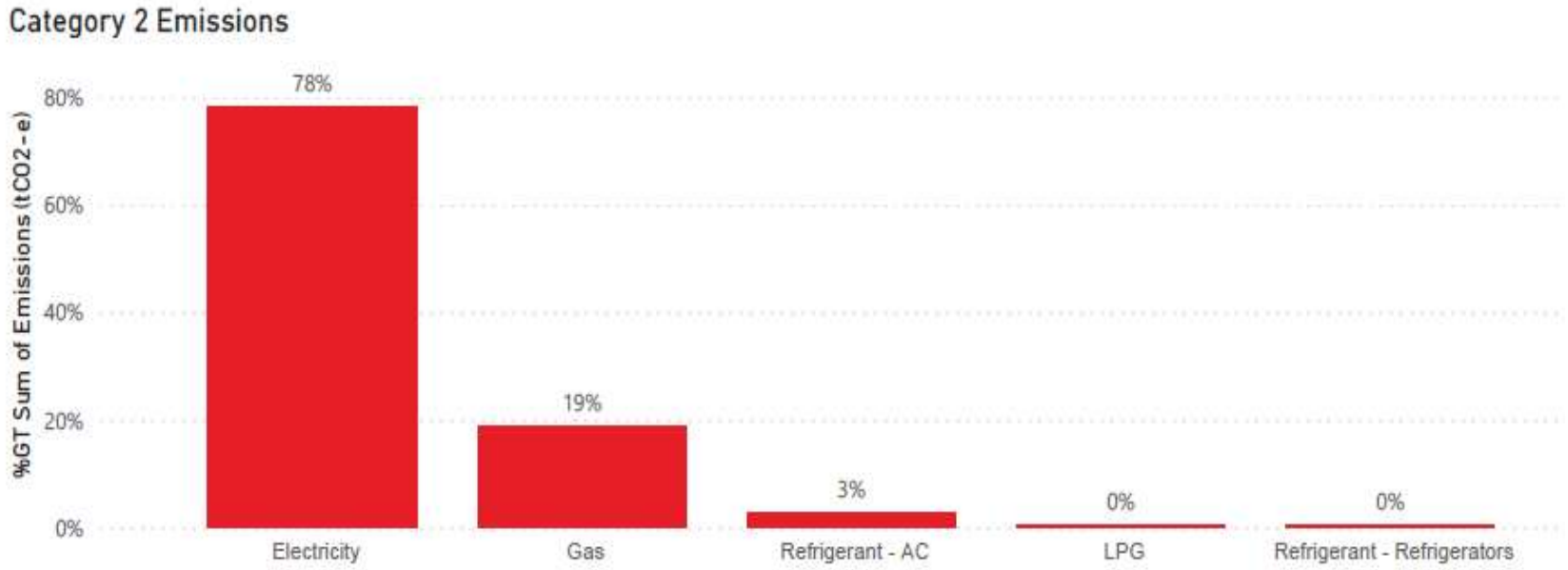
Category 1 emissions



Electricity

Category 2 emissions





INTERVENTION EXAMPLE: ELECTRICITY

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- **HCWH high impact area 1: Power care with 100% clean, renewable electricity**
  - Purchase 100% renewable energy via energy retailer / Green Power / Renewable Energy Certificates
  - Install photovoltaic (PV) cells with batteries

Potential to reduce Mercy Health total emissions by 32%

Media Release

The Hon James Merlino MP
Acting Premier
Minister for Education
Minister for Mental Health

VICTORIA
State Government

Sunday, 2 May 2021

CLIMATE PLAN TO CUT EMISSIONS AND CREATE JOBS

Government operations, from schools and hospitals to police stations and metro trains, will also be powered with 100 per cent renewable electricity by 2025 – an Australian first.

Renewables make Reusables Better

THANK YOU

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Artist: *Dixon Patten, Bayila Creative, Gunnai and Yorta Yorta*