



TE OPE KĀTUA O AOTEAROA  
**DEFENCE FORCE**

# **A FORCE FOR NEW ZEALAND'S FUTURE**

---

**September 2023**

UNCLASSIFIED

# Introduction

---

Purpose of this session – Opportunities for Partners

Overview of the NZDF

Climate Change implications

- Climate security
- NZDF's Emissions Reduction Plan

What now?

- Incorporating innovative use of electric vehicles
- Resilience and adaptation

What next?



# Electro Mobility in the military?

---



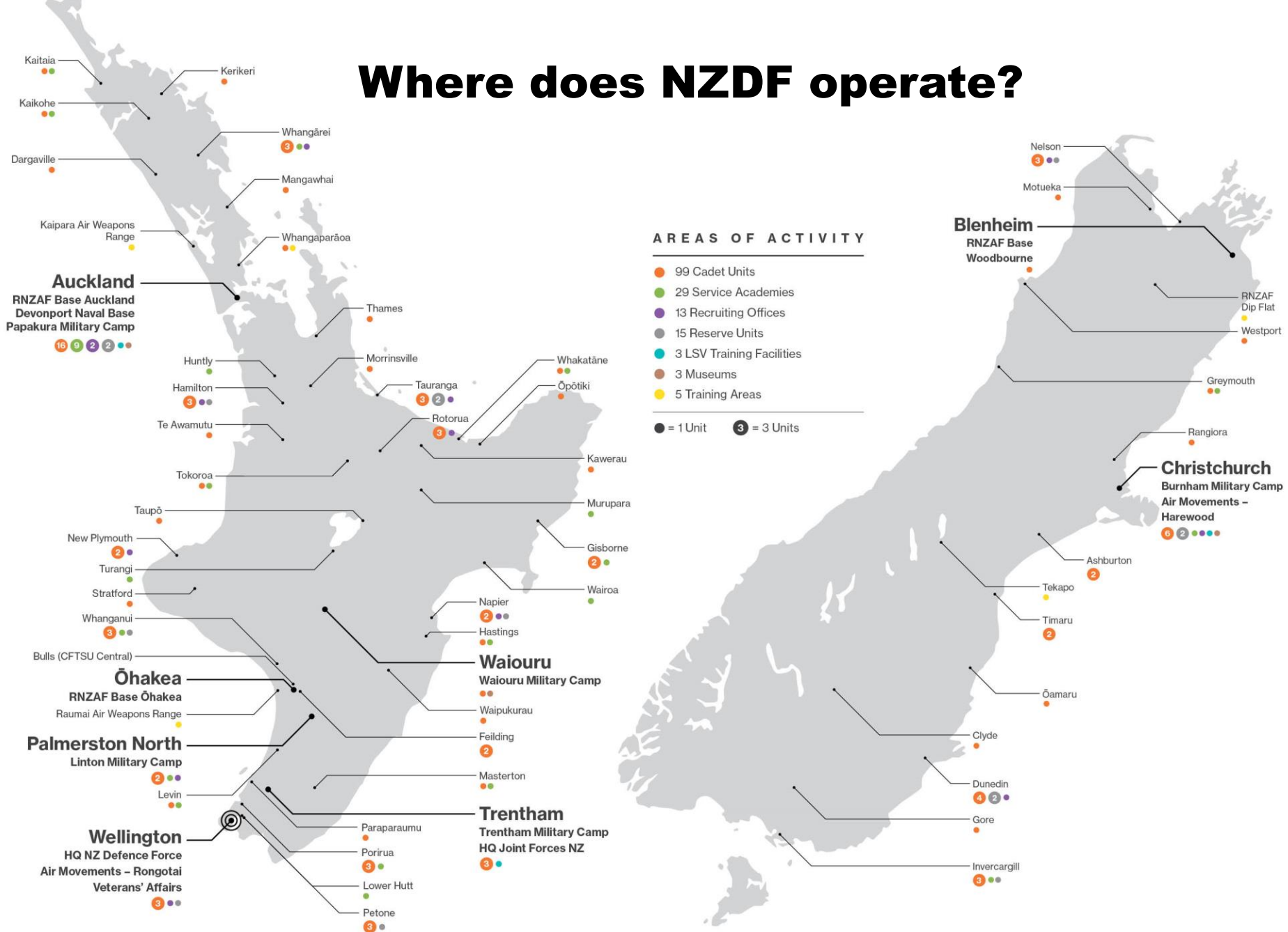
---

**The New Zealand  
Defence Force is a  
Combat-capable Force –**

**Trained, Equipped, and  
Ready to Respond  
every hour of the day,  
every day of the year.**



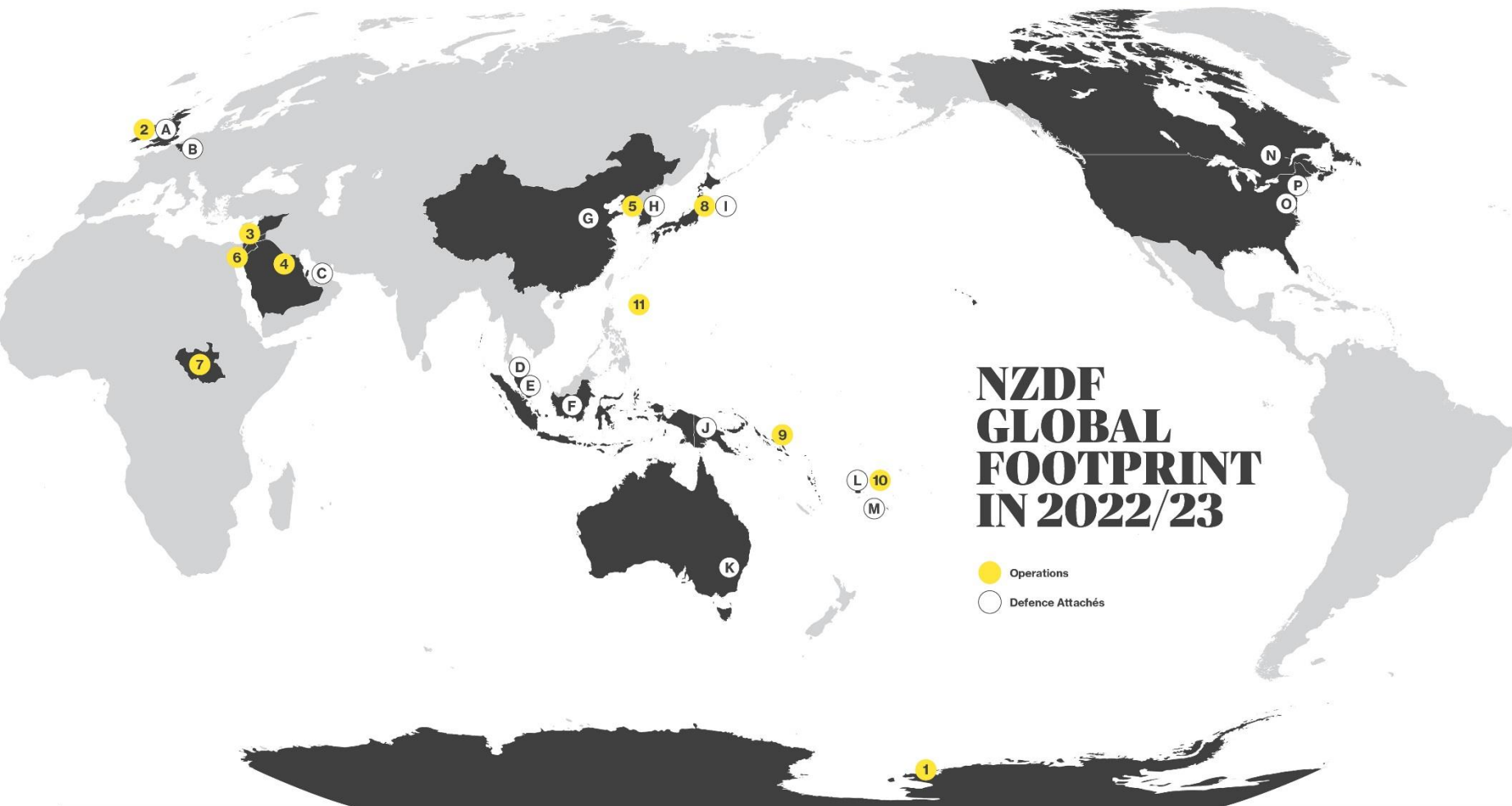
# Where does NZDF operate?



UNCLASSIFIED

NZDF Annual Report 2022





## NZDF GLOBAL FOOTPRINT IN 2022/23

● Operations  
○ Defence Attachés

### Operations (Op)

- |  |                                  |
|--|----------------------------------|
| 1 Antarctica (Op ANTARCTICA)                             | 6 Sinai Peninsula (Op FARAD)     |
| 2 United Kingdom (Op TIEKE)                              | 7 South Sudan (Op SUDDEN)        |
| 3 Israel, Lebanon, Syria (Op SCORIA)                     | 8 Japan (Op WHIO)                |
| 4 Middle East (Ops PUKEKO, TROY, MOHUA, GALLANT PHOENIX) | 9 Solomon Islands (Op SIAST)     |
| 5 Republic of Korea (Op MONITOR)                         | 10 South Pacific (Op CALYPSO)    |
|  | 11 South East Asia (Op CRUCIBLE) |

### Defence Attachés (DA)

- |  |   |  |
|--|---|--|
| A Defence Adviser United Kingdom (Head of New Zealand Defence Staff) | H DA Republic of Korea  | N Defence Adviser Canada   |
| B DA Belgium   | I DA Japan  | O DA United States of America (Head of New Zealand Defence Staff)      |
| C DA United Arab Emirates  | J Defence Adviser Papua New Guinea                              | P Military Adviser New Zealand Permanent Mission to the United Nations |
| D DA Malaysia  | K Defence Adviser Australia (Head of New Zealand Defence Staff) |  |
| E DA Singapore   | L Defence Adviser Fiji  |  |
| F DA Indonesia   | M Defence Adviser Tonga   |  |
| G DA China   |   |  |

# How does climate change affect the NZDF?

## Security impacts of climate change

### Climate effects

- Rising temperatures
- Melting ice
- Sea level rise
- Ocean acidification
- Intensifying cyclones
- More or less rainfall
- Floods / Droughts
- Heatwaves

### Environmental impacts

- Coral bleaching
- Decreasing fish stocks and marine life
- Coastal erosion
- Increase in soil salinity
- Unproductive land (non cultivable and eventually uninhabitable land)

### Social impacts\*

- Loss of livelihood
- Water and food scarcity
- Increase in malnutrition
- Loss of jobs / education opportunities
- Loss of cultural identity
- Damage to community infrastructure
- Climate migration

### Security implications

- Human security challenges
- Health-related crises
- Resource competition (food and water security)
- Violence from mismanaged adaptation or migration
- Land disputes

**Magnified by weak governance**

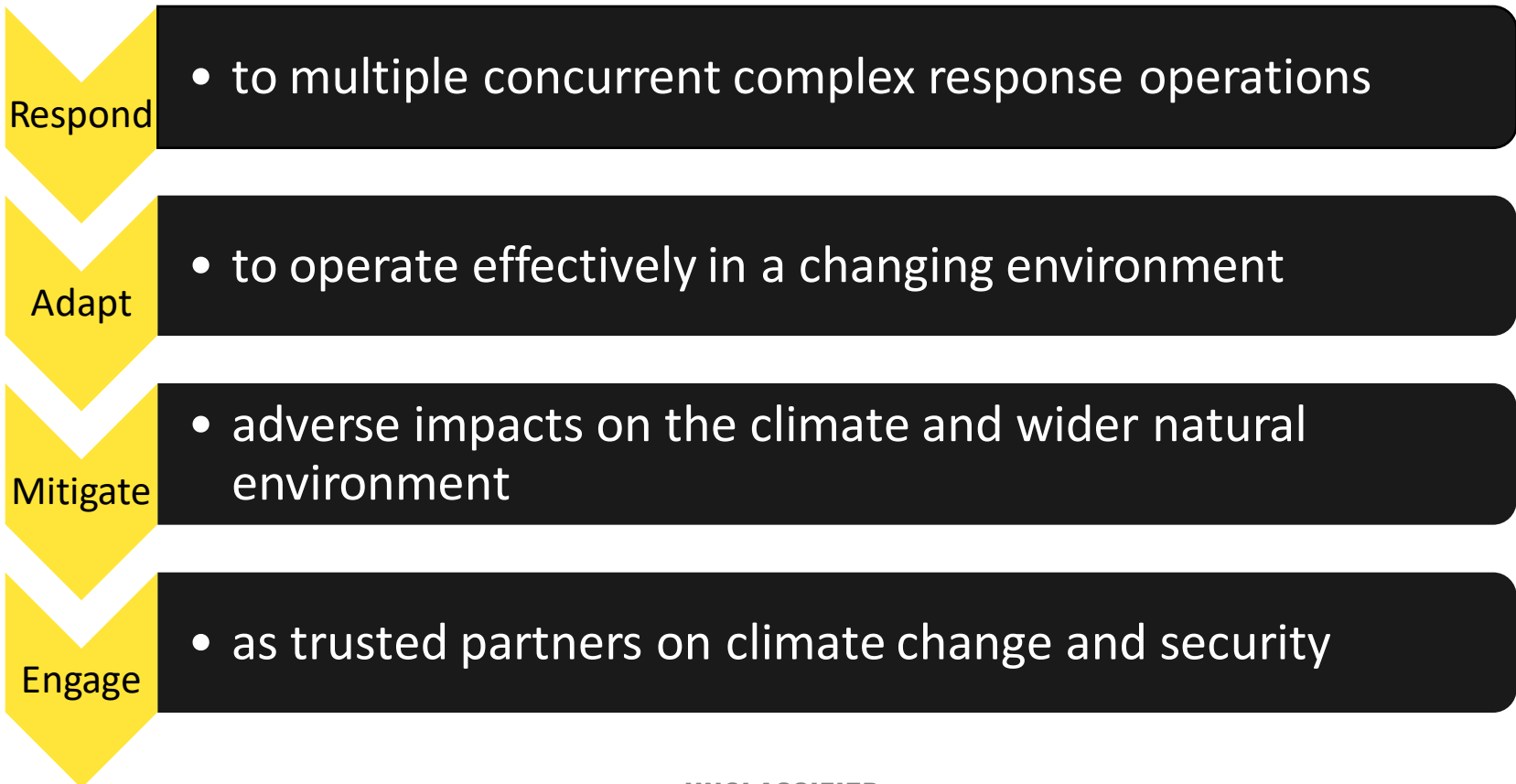
The impacts of climate change will become more pronounced as time goes on

\*Social Impacts are often interconnected with economic and political factors

# What are we doing about it?

---

## NZDF Climate Change Response Programme





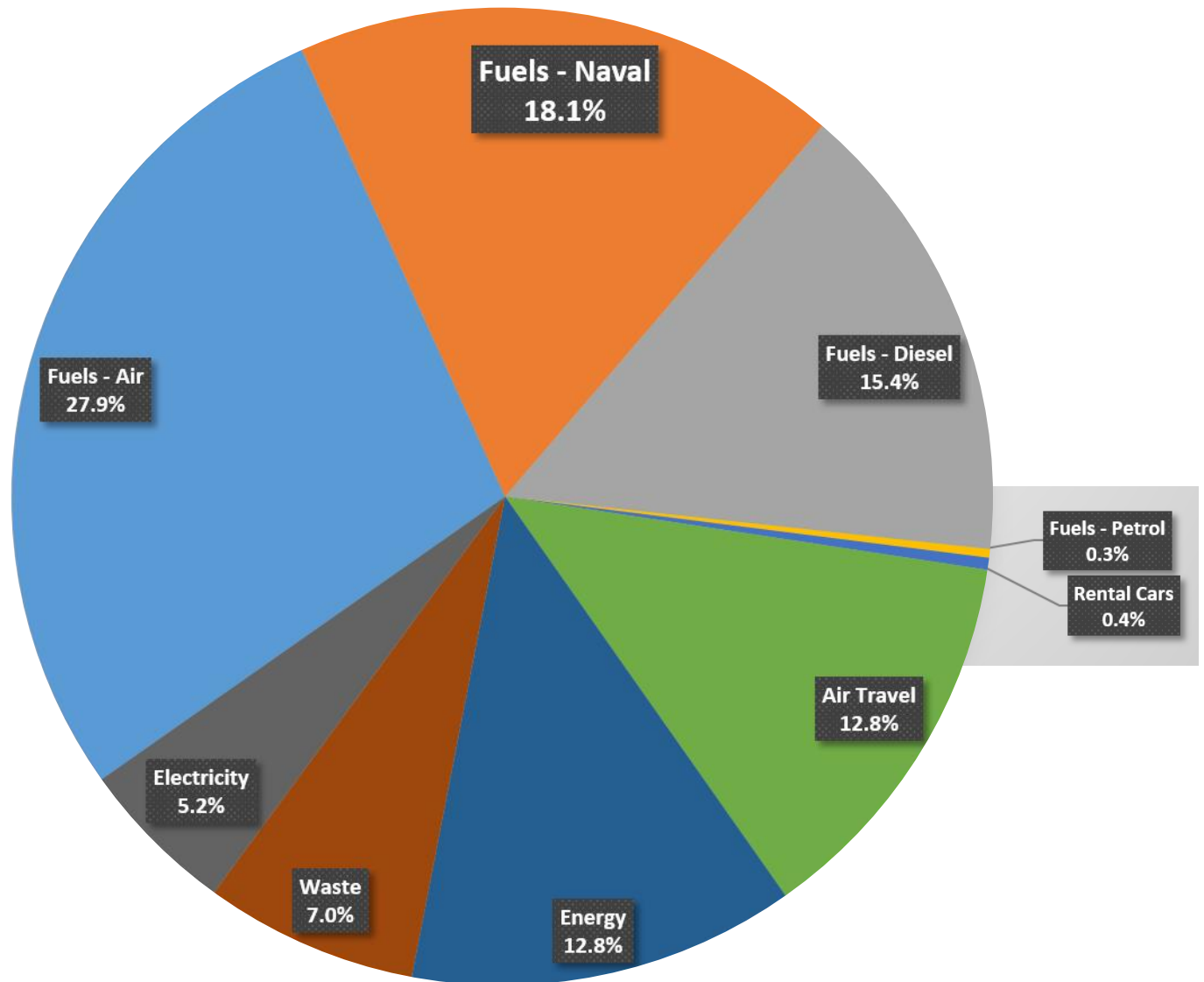
# Carbon Neutral Government Programme



**Carbon Neutral**  
Government Programme

---

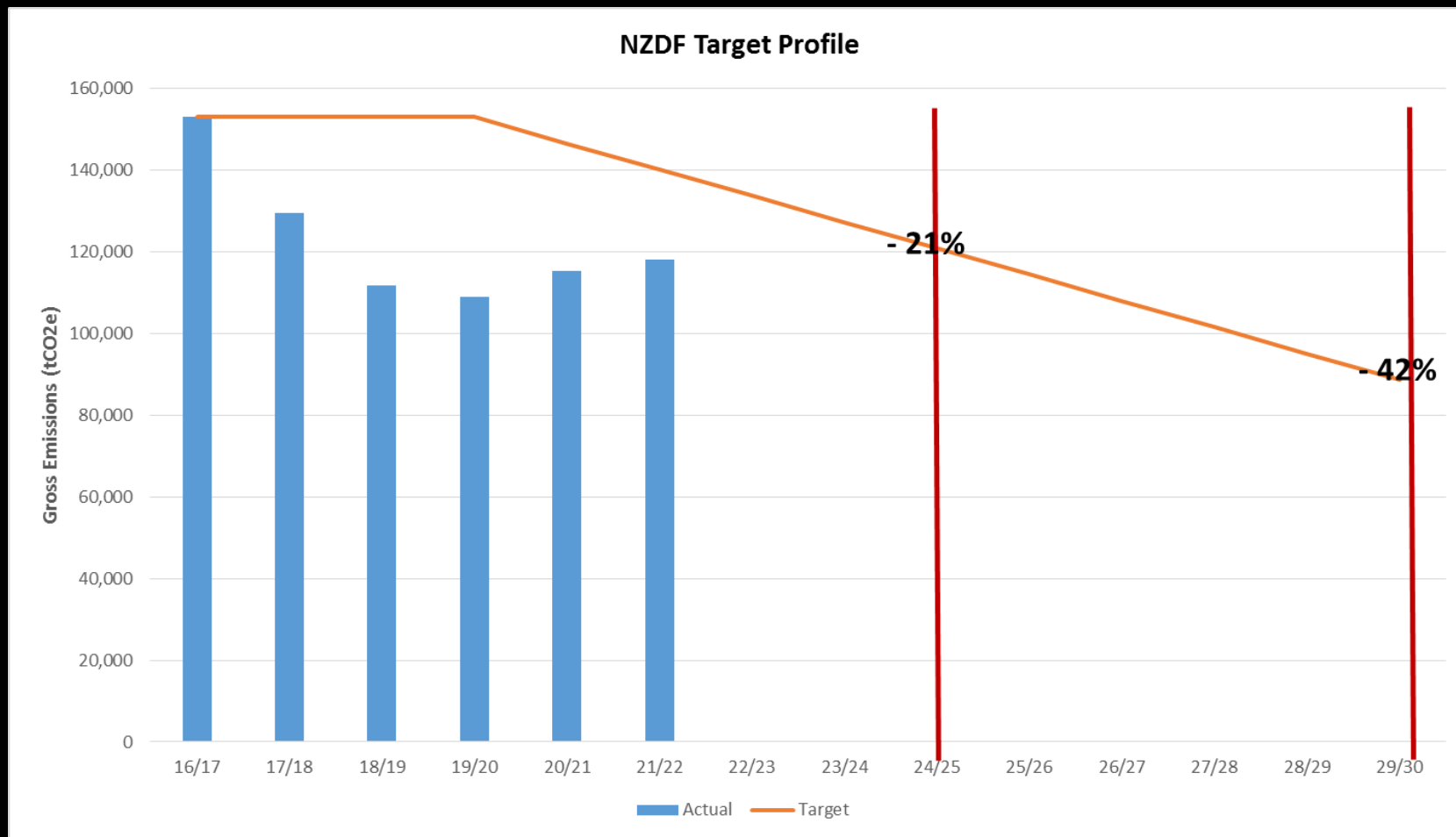
## NZDF Emissions Profile – Base Year (FY2016/17)



# Emissions Reduction Plan

Phase One – Setting ‘Direction of Travel’

30 November 2022



UNCLASSIFIED

# Emissions Reduction Plan

Phase One – Setting ‘Direction of Travel’

## Drivers of Emissions

Fuel

Commercial Travel

Defence Estate

## Enabling Change

Data and Information  
Management

Governance and Partnerships

Innovation and Grassroots  
Action

# PART 2

---

## What now?

- Innovative use of electric vehicles
- Resilience and adaptation

## What next?





# NZDF VEHICLE FLEET

2000+ vehicles

- c1400 Operational Vehicles
- c600 Commercial Line Vehicles

28 domestic locations

43 vehicles in 17 overseas locations





# What does NZDF use its vehicles for?

---

- Command, Control and Liaison
- Combat
- Casualty evacuation
- Movement of personnel, equipment and stores
- Transporting heavy equipment
- Transporting and dispensing fuel
- Aircraft Loading and Materiel Handling
- Fire Fighting and Emergency Response
- Humanitarian Aid and Disaster Relief



# **We need to be resilient and responsive for NZ**

## **Understanding of our Mobility Challenges**

---

**Understand our usage profiles better**  
– what, where, why, how

- We often operate in off grid and austere environments
- We often operate off-road and through waterways
- NZDF Cyclone Gabrielle Response

**We need smarter fleet management practices**

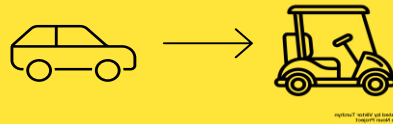
- Telematics enabled
- Greater use of vehicle pools to optimise fleets
- Expand alternate transport options



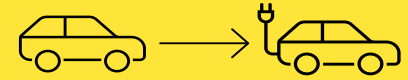
# EV in THE NZDF Commercial Line Fleet

- 30 of 600 vehicles transitioned to BEV or PHEV to date.
- Vehicles replaced with an EV where it meets the replacement criteria and user needs.
- NZDF is partnering with SG Fleet and Thundergrid to optimise the current CL Fleet.
- Looking at multiple options for reducing emissions – biofuel, hydrogen.

## Optimise



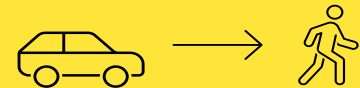
## Electrify



## Replace



## Remove



# Resilience and adaptation

## CASE STUDY: Responding to Cyclone Gabrielle

### Video: Help in Dartmoor, Hastings (Cyclone Gabrielle)

Our Army Task unit have been proving routes through to Dartmoor to provide petrol and diesel and conduct welfare and health checks as a part of the response to Cyclone Gabrielle.





# **FUTURE OPPORTUNITIES**

---

NZDF can't do this in isolation and would like to learn and partner with industry.

Tell us:

What have we missed?

What advice can you provide?

Where do you see future options and opportunities?



TE OPE KĀTUA O AOTEAROA  
**DEFENCE FORCE**

# A FORCE FOR NZ'S FUTURE

---

**Contacts:** [ClimateChange@nzdf.mil.nz](mailto:ClimateChange@nzdf.mil.nz)

[DEMO@nzdf.mil.nz](mailto:DEMO@nzdf.mil.nz)

[EVProject@nzdf.mil.nz](mailto:EVProject@nzdf.mil.nz)

Debbie Howarth – Dir Industry and External Engagement  
[industry@nzdf.mil.nz](mailto:industry@nzdf.mil.nz)

Defence Industry Association <https://www.nzdia.co.nz>

UNCLASSIFIED





**HEI MANA MŌ AOTEAROA**  
**A FORCE FOR NEW ZEALAND**