



National
Defence

Défense
nationale

ASSISTANT DEPUTY MINISTER (INFRASTRUCTURE AND ENVIRONMENT)



Workshop #1: The Green Military Defence Energy and Environment Strategy

Climate Change Symposium
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Canada



National Defence Environmental Portfolio

- \$26-billion portfolio
- 2.2 million hectares of land
- 20,000 buildings
- Over 200 locations across Canada
- 15,600 works, including jetties, runways, training areas and roads
- 7% of federal land inventory
- 150+ species at risk
- 38% of government buildings
- 61% of federal GHG emissions





Key policy drivers – Focus on environment and climate change





**STRONG
SECURE
ENGAGED**

CANADA'S DEFENCE POLICY

Strong Secure Engaged: Green initiatives

- 101.** Reduce greenhouse gas emissions by 40% from 2005 levels by 2030 (excluding military fleets)
 - Invest **\$225 million by 2020** in infrastructure projects to reduce our carbon footprint
 - Transition **20% of non-military vehicle fleets** to hybrid and electric by 2020
 - Require new projects to meet the **Silver Leadership in Energy and Environmental Design (LEED)** standard or equivalent
 - Expand **energy performance contracts**
 - Install **electric charging stations**

- 102.** Examine **alternative energy options** and their potential use in operations



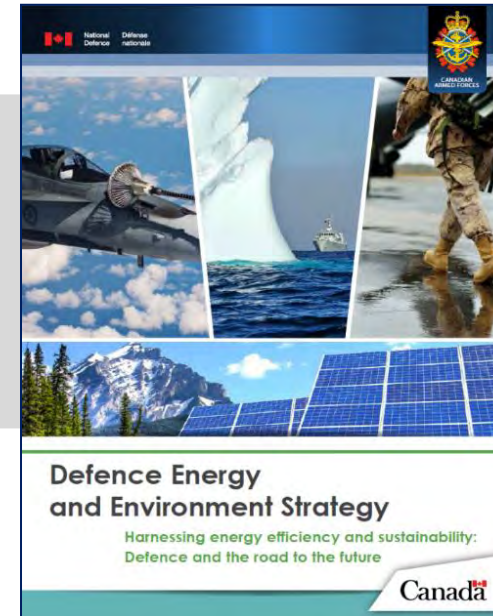
Defence Energy and Environment Strategy

Vision:

DND/CAF will become leaders in contributing to the sustainable development goals of Canada through the effective and innovative integration of energy and environmental considerations into activities supporting the Defence mandate.

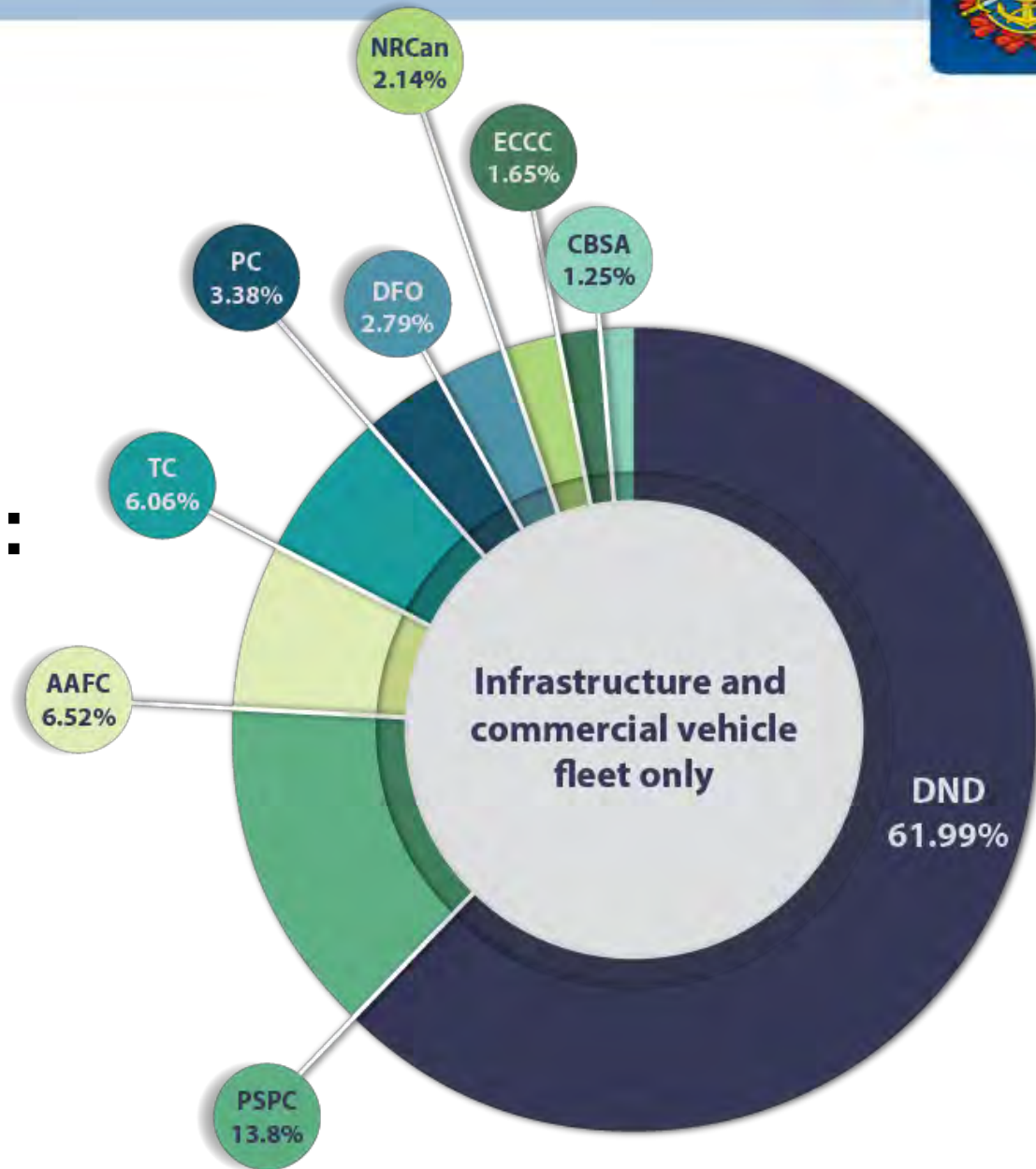
The DEES aims to deliver:

- 1) Less energy waste
- 2) Cleaner energy
- 3) A reduced Defence environmental footprint
- 4) Better-managed energy and environmental performance



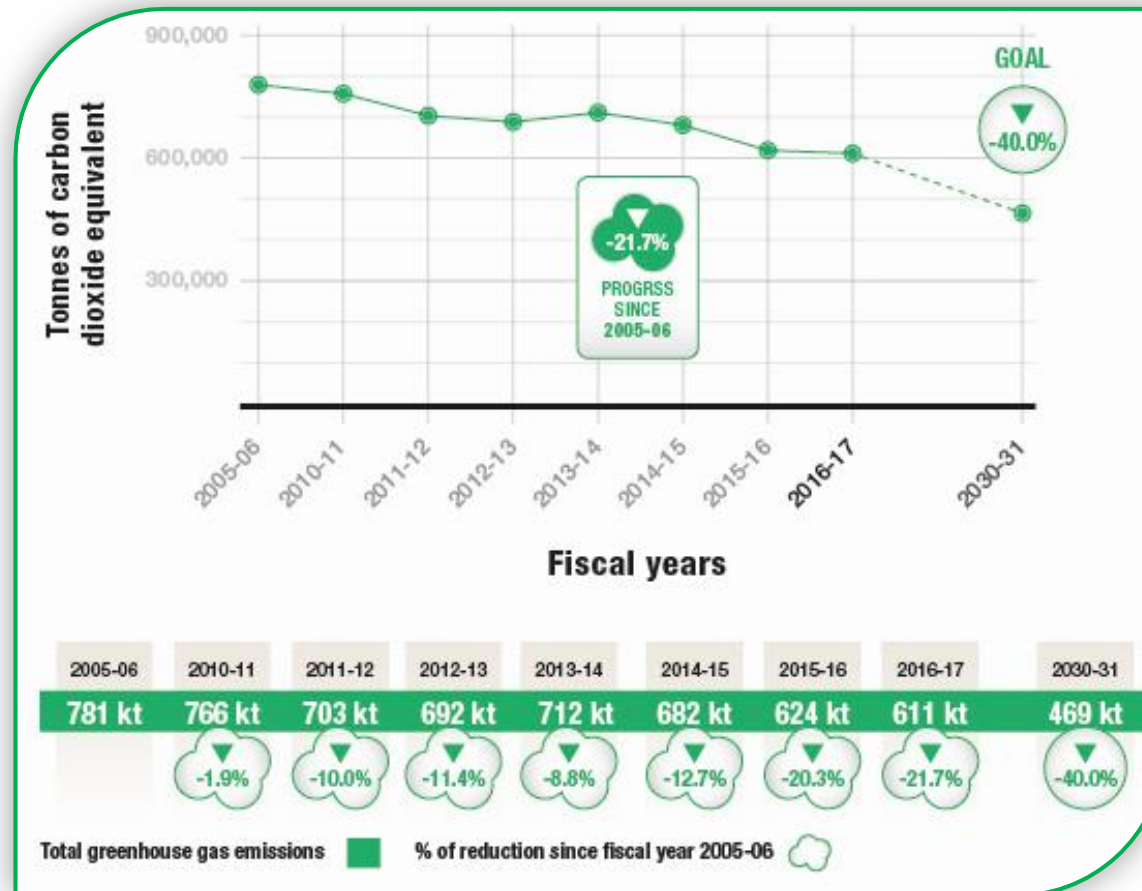


Greenhouse gas emissions by department: FY 2016-2017





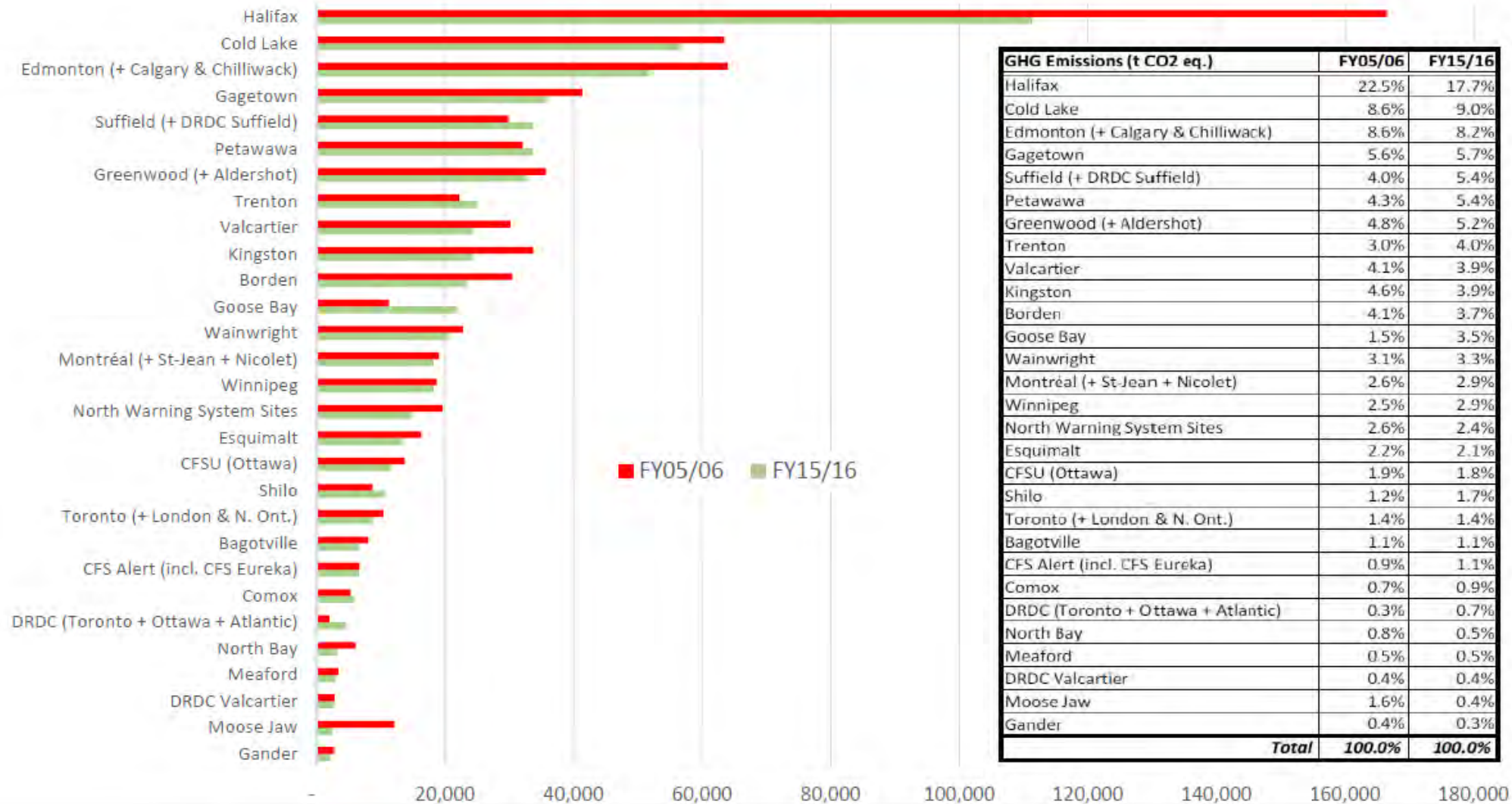
DND's greenhouse gas emissions reductions since 2005*



*from buildings and commercial vehicles



Greenhouse gas emissions by base

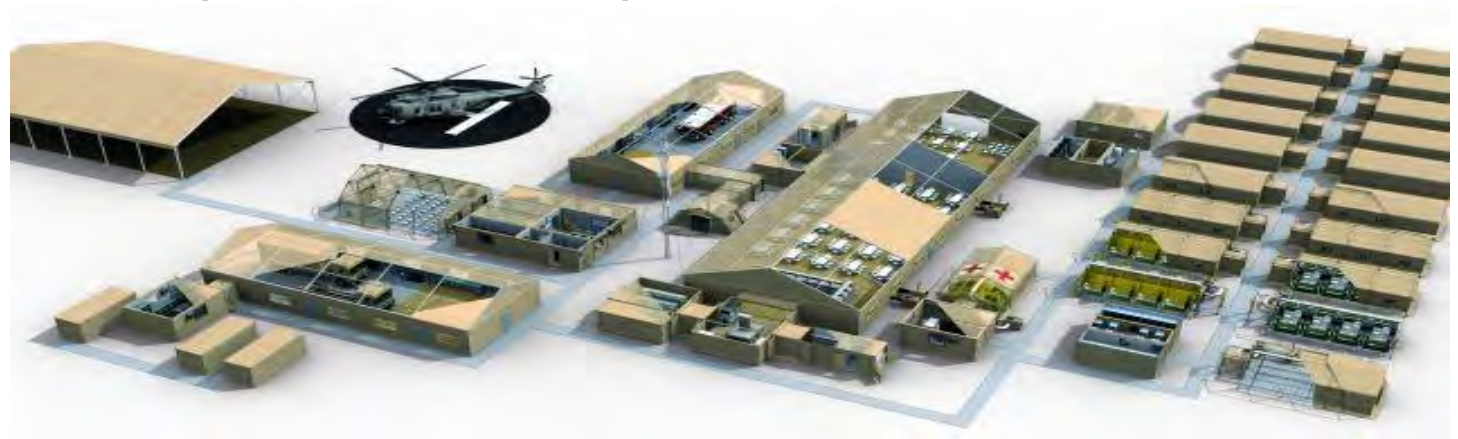




Energy and Mission Support



- New CAF deployable camp utilities system will bring economical and tactical benefits by **reducing energy consumption, waste, and environmental footprint** of military compounds in an operational environment



Representative image



Operational Opportunities

Over the last decade, many technologies have advanced:

- Power generation and management
- Renewable power
- Energy storage
- Waste to energy systems
- Camp energy reduction system



- Cleaner fuels for military fleets
- More efficient equipment and kits
- Power solutions for operations
- Operational efficiencies



National Defence **Infrastructure Initiatives**

- Energy Performance Contracts
- Clean Power Purchasing
 - Alberta bulk energy purchase
- Smart Buildings
 - Pilot project at CFB Trenton
- Energy Managers
 - Job posting currently online ([Energy Manager](#) and [Energy Efficiency Engineer](#))
- Carbon neutral portfolio study underway





National Defence **Infrastructure Initiatives**

- Green Buildings
 - New Green Buildings Directive (LEED)
 - Investing \$225 million by 2020
 - Building net-zero ready
- Electric charging stations
 - To support 30% green light-duty fleet by 2020
- Central Heating Plant Modernization
 - Moving from steam toward low-temp water and geothermal



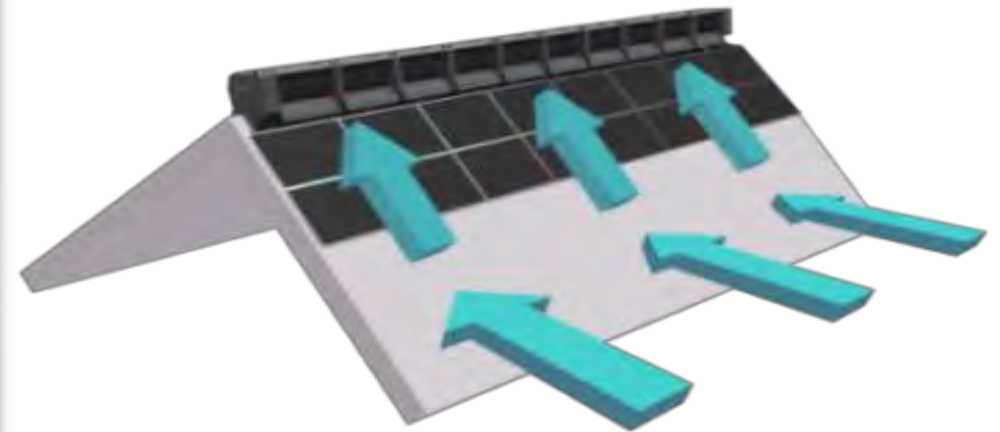


Other innovative **energy solutions**

- Partnerships with Canadian innovation programs to make National Defence an innovation hub for energy, infrastructure, and the environment



GreenCube generator for deployed camps



RidgeBlade wind turbine



Conclusion

- Reduction of energy consumption at home and abroad
- Collaboration with other federal departments and Canadian industry to develop innovative solution
- Measurement and monitoring of energy consumption





Discussion Questions

- National Safety and Security fleet
- Sustainability versus core mandate
- Interoperability



National Safety and Security fleet

NSS is currently out-of-scope of GHG target, should it be targeted?

- Military commitments (NATO, NORAD, UN Coalitions)
- Domestic force generation
- Continue to apply to tempo, operations, exercises, mission
- COP 21 and Military emissions



Sustainability versus core mandate

Does DND have an obligation to push clean technology?

- ECCC – Federal Sustainable Development Strategy
- TBS – Greening Government Strategy
- Not in Defence core mandate
- Federal Leadership
- Early adopter of clean technologies
- Risk of market fluctuations, technologies phasing out, premiums



Interoperability

What is Canada's obligation in procurement when working with other countries?

Can we operate differently at home than on deployments?

- NATO, NORAD, UN or coalition engagements
- Share equipment and fuels
- Canada promotes different platforms
- F-35 versus European alternatives



Additional information



- If you have any questions or would like more information, please contact DGESM

Links

- [*Defence Energy and Environment Strategy \(DEES\)*](#)
- [*Federal Sustainable Development Strategy \(FSDS\)*](#)
- [*Strong Secure Engaged: Canada's Defence Policy*](#)