



FROM ACQUISITION TO DISPOSAL:

UNCOVERING THE TRUE COST OF 88 NEW FIGHTER JETS

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INTRODUCTION

The Canadian government is planning to purchase advanced fighter aircraft to replace the Royal Canadian Air Force's existing fleet of CF-18 fighter jets, at an announced starting price of \$19 billion. The contract is expected to be awarded in 2022. This report estimates the true lifecycle cost of these jets as \$77 billion and offers comparisons for what this cost could alternatively cover.

COST COMPONENTS

The initial cost for the 88 advanced fighter jets is acquisition: paying for the planes and their initial setup. This is the \$19 billion sticker price that the government has quoted, but it's not the only cost. Once the planes have been acquired, they will need to be kept up and running, including major repairs and new parts and training. This is sustainment. Operations covers the fuel, the salaries, and small repairs. The

attrition cost addresses the loss of jets. And, finally, when the planes can no longer be used there is a disposal cost. The true cost of the jets is the total of all of these components, or their lifecycle cost.

COST BREAKDOWN

The Canadian government has not provided a detailed cost estimate of the fighter jet program – just an estimated acquisition cost. While the precise cost of the program will depend on the company and aircraft chosen, reasonable estimates can be made based on analysis and government reporting on previous fighter jet lifecycle costs. The following estimate of the lifecycle cost of 88 new jets is based on associated costs for the F-35, broadly understood to be the competition frontrunner. It uses a combination of estimates from the Department of National Defence (DND), KPMG, and the Canadian Centre for Policy Alternatives (CCPA).



PHOTO: US Navy photo by Dane Wiedmann.

DETAILS

This estimate is informed by several reports made during the last fighter jet procurement project in the early 2010s, notably the DND estimate produced in 2013, and the CCPA report which critiqued that estimate in 2014, written by Byers. Additional information on the current procurement was found in publicly available presentations by the Future Fighter Capability Project (FFCP).

DEVELOPMENT: \$689 million

The Canadian government has already spent \$689 million on the development of the F-35s (Berthiaume, 2020). It is unclear what additional development costs the government may be responsible for.

ACQUISITION: \$19 billion

This cost is primarily for the planes themselves, and all “one-time costs associated with acquiring aircraft, ancillary equipment, infrastructure, information systems, mission software reprogramming capability,

initial aircrew and ground crew training, weapons, support equipment, initial spares and project management” (DND, 2013) and for sustainment setup (FFCP, 2018). Initial sustainment services may be partially included in this cost. The DND estimates that the acquisition costs of the current program will be between \$15 and 19 billion – if the F-35 wins, it will most likely be \$19 billion (FFCP, 2018).

SUSTAINMENT: \$19.1 billion

These costs “include contracted labour and materials costs related to the major repair, overhaul, and upgrade of the aircraft and equipment, the management of the supply chain, and training-support management” (DND, 2013). In 2013, the DND estimated lifecycle sustainment costs would be \$15 billion. Since then, the value of the Canadian dollar has dropped significantly, adding \$2.1 billion (Byers, 2014). The inflation rate has not increased much since 2014, though it may in the future, potentially adding bil-

lions (\$12 billion for a 4 percentage point increase). The hours these jets are expected to fly are also relevant, since more flying hours means more repairs and management. Planned flying hours are confidential, as well as flying hours in recent years, making an accurate estimate difficult. This estimate assumes the planned flying hours for each jet is the same as the 2010s procurement, increasing the total number of flying hours proportionally with the increase in number of jets from 65 to 88. This adds approximately \$2 billion (DND, 2013). The increase in the number of jets may also increase the cost of sustainment in other ways not well accounted for in the reports used for this estimate.

OPERATIONS: \$35.8 billion

The operations cost “includes salaries, fuel, first-line maintenance, and base-support costs” (DND, 2013). The DND estimated this cost at \$19.9 billion primarily based on the operating cost of CF-18s. Byers estimated \$29.7 billion using operating cost data from the US Department of Defence. Byers’ number is used as the starting point here. This cost is again highly dependent on flying hours. Assuming the same increase in flying hours as above adds \$1.5 billion. Further cost risk comes from an increase in the cost of jet fuel. This price has not changed significantly in the last decade, but it is reasonable to assume the price will increase in the near future. Assuming a 50% increase in the cost of jet fuel near the beginning of the lifecycle adds \$4.3 billion. This is perhaps an overestimate, but the cost of jet fuel may double or more by the end of the lifecycle.

DISPOSAL: \$168 million

This “include[s] the costs of demilitarizing the aircraft, removing hazardous materials, storage and final disposition of the airframe” (DND, 2013). The DND estimated \$168 million for this process in 2013, again

basing their data on the CF-18s. The larger number of jets and their increased technological complexity over the CF-18s may significantly increase this cost, but it is not clear by how much. This estimate is thus conservative.

ADDITIONAL COSTS: None

Byers mentions several costs that are somewhat external to the acquisition project but are nonetheless essential for the operation of the jets in the Canadian military, like acquiring additional munitions and building a computational facility. This report assumes

that for this round of purchasing the government has factored them into the acquisition costs.

ATTRITION: \$2 billion

This cost is for the optional replacement of lost aircraft. The DND assumes a loss rate of two to three planes per 100,000 flying hours. Again assuming an increase in flying hours proportional to the increase in the number of jets, this would mean a loss of between 12 and

18 planes over 30 years. The replacement cost would be between \$1.5 and \$2 billion. This report assumes interest by the government in fully replacing lost aircraft. In the 2013 DND estimate, attrition costs were expected but not explicitly included in acquisition costs. It seems like attrition is still not included in the costs, but it isn’t perfectly clear (FFCP, 2018). If in fact attrition has been accounted for in the estimated \$19 billion acquisition cost, then this would be an overestimate.

INFRASTRUCTURE: \$21.3 million

The infrastructure needed for the jets is being built outside of the acquisition process, meaning it is an additional cost not accounted for in acquisition (FFCP,

Estimated life cycle of 88 fighter jets: \$76.7 Billion

Estimated cost of improving water and wastewater systems in Indigenous communities: \$3.2 - 4.7 Billion

Amount requested by the Canadian Association for Long-Term Care to address the crisis in Long-term care homes: \$3.14 Billion

2019). So far, \$21.3 million has been awarded in infrastructure contracts and much more could be spent (DND, 2020). This figure is not included in the infographic on the right due to it being comparatively small.

RISK AND LIMITATIONS TO THIS ESTIMATE:

Several of these figures could change depending on inflation rates, the value of the Canadian dollar, the cost of jet fuel, or any number of other factors. This potential for change is called risk, since they create the risk that the project could cost more than initially estimated. Byers (2014) wrote his report to emphasize this risk, and provided an estimate for a scenario where the price of jet fuel doubled, inflation hit 4%, and the value of the Canadian dollar dropped to 0.70 USD. The dollar has already dropped substantially from the 2014 value of 0.90 USD to the high 70s--further fluctuations are possible. Byers' upper estimate was \$126 billion. There is still substantial risk for high inflation and higher jet fuel prices which could raise the cost far above this estimate of \$77 billion.

The main limitation to this estimate is our assumption that the F-35 will win the competition. There are two other jets being considered: Boeing's Super Hornet and SAAB's Gripen. It is possible that either of these jets winning would reduce the cost of the program, especially in acquisition and fuel costs. The other limitation is in detail: the specifics of flying hours, infrastructure, replacement parts, sustainment salaries, and so on are unavailable. This report uses old estimates for a slightly smaller program. Some aspects of sustainment may have become cheaper in the interim years. The larger program size may have increased costs in ways unaccounted for here.

THE REAL COST OF WAR PLANES

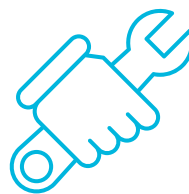


DEVELOPMENT \$689M

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ACQUISITION \$19B

This cost is primarily for the planes themselves. The DND estimates that the acquisition costs of the current program will be between \$15 and 19 billion – if the F-35 wins, it will most likely be \$19 billion.



SUSTAINMENT \$19.1B

These costs “include contracted labour and materials costs related to the major repair, overhaul, and upgrade of the aircraft and equipment, the management of the supply chain, and training-support management”

OPERATIONS \$35.8B

The operations cost “includes salaries, fuel, first-line maintenance, and base-support costs”. The DND estimated this cost at \$19.9 billion primarily based on the operating cost of CF-18s. Byers estimated \$29.7 billion using operating cost data from the US Department of Defence.



ATTRITION \$2B

This cost is for the optional replacement of lost aircraft. The DND assumes a loss rate of two to three planes per 100,000 flying hours.

DISPOSAL \$200M

This “include[s] the costs of demilitarizing the aircraft, removing hazardous materials, storage and final disposition of the airframe”.



TOTAL: \$76.8 BILLION



Every day Derek Moonias delivers 1.5 litres of bottled water per person to community members in Neskantaga First Nation. “Even the lake water is not safe anymore,” says Derek, “there’s a lot of mercury in it due to the mining upstream, so we don’t know what kind of water is coming into our lakes here. And the water coming out of our taps sometimes looks like ginger ale. To give people 1.5 litres a day, just for them to survive ... and you’ve got to cook with that, you’ve got to eat, you got to bathe, you got to clean, and to do your laundry. How can someone be so cruel to give us 1.5 litres of water to survive?”

The community of Neskantaga has had a boiled water advisory in place since 1995, making this the longest running boil water advisory in Canada. *PHOTO: Allan Lissner, praxispictures.org.*

COMPARING THE COST

\$77 billion is a large amount of money. To put it in perspective, here are estimated costs of addressing two large problems facing communities today: clean water for Indigenous communities and pandemic standards in long-term care homes.

Many First Nations, Inuit, and Métis communities still do not have access to reliable, clean running water and other crucial community infrastructure. CBC reported in October of 2020 that the Liberals have spent \$1.65 billion of \$2.19 billion set aside for addressing the water crisis in Indigenous communities (Stefanovich, 2020). In 2017, the Parliamentary Budget Office estimated the cost of improving water and wastewater systems in Indigenous communities at \$3.2 billion (PBO, 2017). However, an independent Indigenous firm estimated the cost at \$4.7 billion, accounting for higher population growth (Alida, 2018).

The Canadian Association for Long-Term Care has said that the COVID-19 pandemic combined with 30 years of underfunding across the sector created the “perfect storm” for long-term care homes (CALTC, 2020). The conditions in some homes when the virus hit was, in some cases, comparable to concentration camps (Canadaland, 2020). The Fall Economic Statement announced some funding measures for long-term care; \$1 billion in funding to the Safe Long-Term Care Fund and \$38.5 million for recruitment and retention of personal service workers to help address the labour shortage (CALTC, 2020). But the CALTC has asked for more: they called on the federal government in September to provide \$2.1 billion over 2 years specifically to fund the COVID-19 response and for a number of policy changes to address the lack of standards across the sector (CALTC, 2020).

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COVER PHOTO: US Air Force photo by Staff Sgt. Joely Santiago

BACK COVER PHOTO: US Air Force photo by Staff Sgt. Katerina Slivinske

This report was produced by the No Fighter Jets Coalition. Learn more about the campaign to stop the purchase of new war planes here: nofighterjets.ca.

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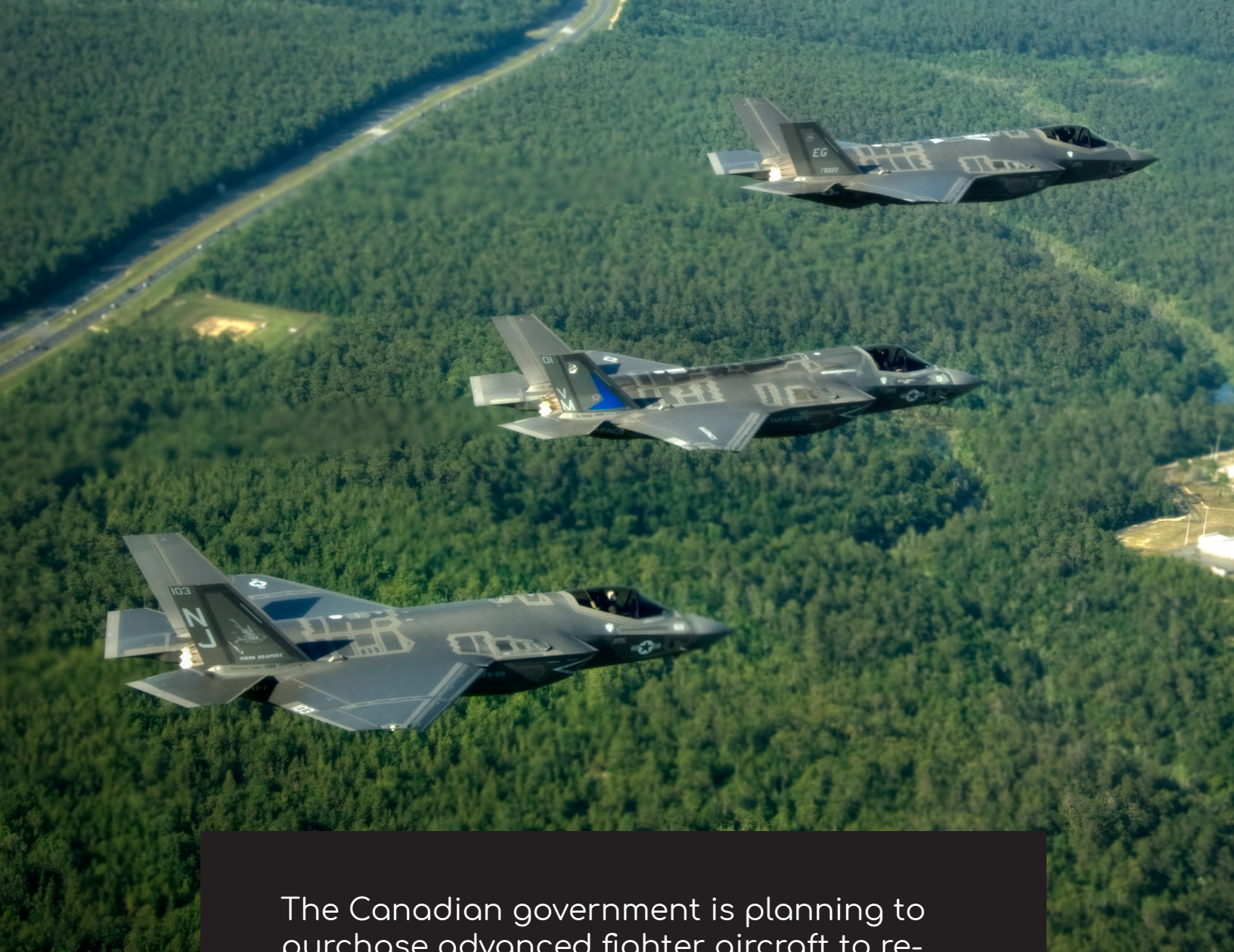
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