

## **CHAPTER IV**

### **CANADA'S RATIONAL CHOICE IN APPROVING PIPELINE PROJECTS**

In November 2016, the Federal government of Canada under Justin Trudeau's leadership announced to approve two major pipeline projects Chapter IV covers the motives and reasoning underlying the decision of Canada under Justin Trudeau's administration in approving three controversial pipeline projects. In this chapter, Canada's approval decision will be analyzed by using the Rational Choice.

#### **A. Economic Prosperity from Canada's Energy Industry**

As have explained in the previous chapter, the energy sector is critical to Canada's economy also to Canadians. The development and exploration of its natural resources most particularly oil and gas have been an important source of Canada's economic development. The industry has been one of the key sources of revenue both for the federal and provincial governments apart from its manufacturing and automobile industry. In 2030 and over, it is projected that Canada would receive over \$409 billion in tax revenue from the industry and the provinces could receive additional of \$282 billion (Natural Resources Canada, 2011). The oil and gas industry is the largest private sector in Canada besides the manufacturing industry investing approximately \$74 billion in Canada in 2013 alone. The industry is 20% of Canada's total export to the global market (Collyer, 2015). In 2016, Canada's total energy export accounts up to \$75 billion which 97% of these are exported to the U.S. Meanwhile, Canada also exported energy products with the export value of \$78.2 billion to 144 countries. (Natural Resources Canada, 2018) Canada's abundant natural gas and oil have been one of the biggest sources of its economy contributing to its GDP growth through mainly through export and the employment. In 2015, the oil and gas sector contributed approximately 7.7% of

Canada's GDP or about 142 billion dollars. On employment, Canada's oil and gas sector has contributed to 3.9% of total employment or approximately 709,549 jobs in 2015 alone. The details of this can be seen in the tables below:

**Table 1.4.1 Nominal Gross Domestic Product in 2015**

<b>Industry</b>	<b>Nominal GDP (\$ billions)</b>	<b>% of Canadian GDP</b>
Energy (direct)	136	7.3
Oil and gas	98	5.3
Electricity	35	1.9
Energy (indirect)	64	3.5
Oil and gas	45	2.4
Total (direct + indirect)	200	10.8
Oil and gas	142	7.7

*Source:* Energy Fact Book 2016 – 2017 by Natural Resources Canada from <https://www.nrcan.gc.ca/sites.pdf> Retrieved February, 7<sup>th</sup> 2018

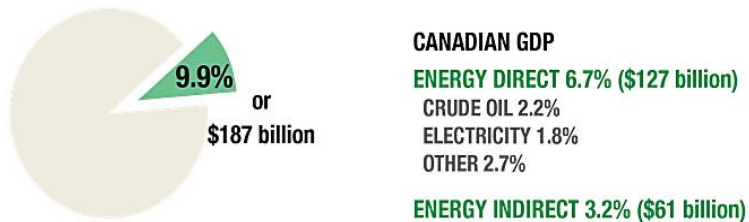
**Table 2.4.2 Employment**

<b>Industry</b>	<b>Employment (jobs)</b>	<b>% of total employment</b>
Energy (direct)	280,365	1.5
Oil and gas	191,415	1
Electricity	78,270	0.4
Energy (indirect)	625,033	3.4
Oil and gas	518,133	2.8
Oil and gas construction	203,065	1.1
Total (direct + indirect)	905,395	5
Oil and gas	709,548	3.9

*Source:* Energy Fact Book 2016 – 2017 by Natural Resources Canada from <https://www.nrcan.gc.ca/sites.pdf> Retrieved February, 7<sup>th</sup> 2018

From the tables in the previous page, direct energy refers to the burning of fossil fuel. Meanwhile the oil and gas includes oil and gas extraction, support activities for oil and gas extraction, natural gas distribution, petroleum refineries and pipeline transportations while the indirect energy refers to industries that supply goods and services to the energy industry such as equipment manufacturing, construction and financial services (Natural Resources Canada, 2017).

**Figure 1.4.1 Energy’s nominal GDP contribution for Canada**



**Source:** Natural Resources Canada from <https://www.nrcan.gc.ca/energy/facts/energy-economy/20062>  
Retrieved March, 12<sup>th</sup> 2018

From Figure 2.4.1 above, it can be seen that in 2016, the energy sector’s contribution to Canada’s GDP increased from 2015 from contributing about 7.7% of Canada’s GDP or \$142 billion to 9.9% or \$187 billion total nominal GDP. Accounting from its percentage of contribution, Canada is slightly above the U.S where the oil and gas exploration and development represents almost 7% only of their economy (The Perryman Group, 2014)

*1. Economic Impacts of Natural Gas Development*

Natural gas in Canada is mostly produced in British Columbia, Alberta and Saskatchewan. The development of natural gas has contributed to both the revenues and of the federal government and these provincial governments. Table 4.4.3 below shows Canadian Energy

Research Institute’s findings on the total economic impacts particularly on Canada’s GDP and employment from natural gas for the period from 2017 – 2027 in Canada as a whole and in its provinces (Doluweera, Kralovic, & Millington, 2017).

**Table 3.4.3 Total GDP and Employment Impacts of Natural Gas Development (2017-2027)**

Investment and Operations 2017-2027	\$CAD Million	Thousand Person Years
	GDP	Employment
Alberta	230,996	514
British Columbia	155,046	413
Manitoba	1,657	9
New Brunswick	551	3
Newfoundland/Labrador	341	1
Nova Scotia	507	3
Nunavut	32	0
Northwest Territories	108	0
Ontario	23,137	118
Prince Edward Island	42	0
Quebec	6,883	37
Saskatchewan	3,115	10
Yukon Territory	122	1
Governments Abroad	0	0
<b>Total Canada</b>	<b>422,537</b>	<b>1,109</b>

**Source:** Canadian Energy Research Institute, August 2017, from [https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/energy-resources/CERI\\_Study\\_166\\_Full\\_Report.pdf](https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/energy-resources/CERI_Study_166_Full_Report.pdf), Retrieved March 1<sup>st</sup> 2018

From the table 4.4.3 above, it can be inferred that the total impact of natural gas development to Canada GDP from 2017 to 2027 is estimated to be CAD\$ 422,537 billion. If we take a look at the contribution on employment, the data uses the person-years measurement – measurement combining the number of persons and their time contribution. The total employment will amount up to 1,109 thousand person-years or

it can be said to be 62,477 jobs in 2017 to 114,878 jobs by 2027 (Doluweera, Kralovic, & Millington, 2017).

In terms of revenues from the tax, the Canadian Institute Energy Research Institute (2017) also estimated that the tax annual federal tax revenues will be CAD\$3.5 billion per year and CAD\$2.2 billion per year for the provincial level to 2027 (Doluweera, Kralovic, & Millington, 2017).

## 2. *Economic Impacts of Canada's Oil Development*

According to the BP Statistical Review of World Energy report released on June 2017, Canada has 10% of the world's share of proved reserves of oil or about 171.5 billion barrels out of 1,706.7 barrels of world oil proved reserves at the end of 2016. Canada has become one of the world's largest exporters of oil since its founding in the 1850s in the area of southwestern Ontario (Bott, 2004). As discussed in the previous chapter, Canada has become the third largest exporter of oil and fourth largest producer in which 99% of its oil exports go to U.S (Natural Resources Canada, 2018).

The development of Canada's oil has given significant impacts to Canada's economy particularly in GDP and also in increasing the employment of Canadians. The Canadian Energy Research Institute (CERI) (2017) estimated that from 2017 to 2027 the total Canadian GDP impact from the development of crude oil is up to CAD\$630.3 billion the annual GDP growth to be CAD\$7.3 billion starting from CAD\$39.8 billion in 2017 and increasing to CAD\$70 billion in 2027 (Doluweera, Kralovic, & Millington, 2017). In addition, the total employment impact from the oil development in Canada from 2017 to 2027 is estimated to 1,379 thousand person-years. It is estimated that from 91,392 jobs created in 2017 it will increase up to 149,000 jobs in 2027. The details of the data can be seen in Table 5.4.4 in the following page:

**Table 4.4.4 GDP and Employment Impacts of Oil Development**

Investment and Operations 2017-2027	\$CAD Million	Thousand Person Years
	GDP	Employment
Alberta	290,107	630
British Columbia	32,672	111
Manitoba	18,892	46
New Brunswick	1,291	7
Newfoundland/Labrador	100,557	138
Nova Scotia	1,274	8
Nunavut	43	0
Northwest Territories	120	0
Ontario	30,763	158
Prince Edward Island	108	1
Quebec	9,104	49
Saskatchewan	145,330	230
Yukon Territory	69	0
Governments Abroad	0	0
<b>Total Canada</b>	<b>630,330</b>	<b>1,379</b>

*Source:* Canadian Energy Research Institute, August 2017, from [https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/energy-resources/CERI\\_Study\\_166\\_Full\\_Report.pdf](https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/energy-resources/CERI_Study_166_Full_Report.pdf), Retrieved March 1<sup>st</sup>, 2018

In terms of tax revenues, we can see from Table 6.4.5 in the following page that in Canada both the federal and provincial government receives a significant amount of revenues. On average the annual federal tax revenues are estimated to be CAD\$4.7 billion per year and CAD\$3.4 billion per year at the provincial level. From Table 4.3 below, it is shown that the total amount of tax revenues from 2017 to 2027 for the federal government amounts up to CAD\$51,670 and CAD\$37,845 in the provincial level with Alberta receiving the highest revenues.

**Table 5.4.5 Tax Receipts from Oil Development in Canada (2017-2027)**

Investment and Operations  2017-2027	Federal	Provincial
	\$CAD Million	\$CAD Million
Alberta	27,528	16,241
British Columbia	2,941	1,853
Manitoba	1,476	1,365
New Brunswick	106	103
Newfoundland/Labrador	5,581	5,553
Nova Scotia	115	112
Nunavut	3	1
Northwest Territories	9	6
Ontario	3,037	2,531
Prince Edward Island	9	11
Quebec	858	1,028
Saskatchewan	10,003	9,037
Yukon Territory	5	3
<b>Total Canada</b>	<b>51,670</b>	<b>37,845</b>

**Source:** Canadian Energy Research Institute, August 2017, from [https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/energy-resources/CERI\\_Study\\_166\\_Full\\_Report.pdf](https://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/energy/energy-resources/CERI_Study_166_Full_Report.pdf), Retrieved March 1<sup>st</sup>, 2018

### *3. Economic Benefits of the Pipeline Projects*

“The oil and gas sector also contributes significantly to the strength of Canada’s economy. This sector, directly and indirectly, employs about 740,000 people. The oil and gas sector contributes nearly 10 percent of Canada’s GDP and pays on average more than \$20 billion per year in taxes, royalties, and fees to governments. In 2014, federally regulated pipelines shipped about \$159 billion worth of crude oil, petroleum products, natural gas

liquids and natural gas to Canadians and export customers at an estimated transportation cost of \$7 billion” (Natural Resources Canada, 2016).

As discussed in the previous chapter, pipelines are a vital part of Canada’s energy industry as its oil and gas are transported and exported most efficiently through pipelines. Only through pipelines can Canada’s oil and gas can be put to the global and domestic market. *“Canadians simply could not live as they today without pipelines”* is stated by Natural Resources Canada which was further elaborated to how pipelines are critical to delivering fuel for Canadians to heat homes, to support transportation system and for petroleum products which are all moved by pipelines across the country (Natural Resources Canada, 2016).

In addition, Alberta as one of the largest producer of oil in Canada supports the pipeline expansions as it emphasizes the importance of the oil sector to the province’s economy. Rachel Notley, the premier of Alberta addressed in her speech in 2016:

“Every Canadian benefit from a strong energy sector. But we can't continue to support Canada's economy unless Canada supports us. That means one thing: building a modern and carefully - regulated pipeline to tidewater. We now have a balanced framework to develop our industry and every government in Canada understands this issue must be dealt with. But I can promise you this: I won't let up. We must get to ‘yes’ on a pipeline”

From Notley’s statement, we can see how pipelines is a critical part of Canada’s economy gaining revenues from the oil sector. This section presents the economic benefits of the two pipeline projects approved by the Canadian government which are the Kinder Morgan’s Trans Mountain Expansion Pipeline Project and Enbridge’s Line 3 Replacement Project.



*a. Kinder Morgan's Trans Mountain Expansion Project*

Kinder Morgan's pipeline is one of the key existing pipelines in Canada. The Trans Mountain Expansion Project (TMX) with its 1,150 km pipeline located between Strathcona County, Edmonton, Alberta and Burnaby, British Columbia was approved in November 2016 to expand the pipeline by creating a twinned pipeline that would increase the pipeline capacity from transporting 300,000 barrels per day to be 890,000 barrels per day. The project is planned to add 980 km of new pipeline and reactivate 193 km of the existing pipeline supported by 12 new pump station and 19 new tanks in the storage terminals (Natural Resources Canada, 2017).

According to Kinder Morgan Inc., the \$7.4 billion project will increase the value of Canadian oil through boosting Canada's potential and ways to world markets where oil is highly paid and will give greater tax revenue for Canada. It is estimated that the expansion will result in \$73.5 billion in revenues for the oil producers. Estimated by the Conference Board of Canada, the project would most likely contribute \$46.7 to the federal government from taxes and royalties starting from the development of the project and over the first 20 years of its operations. These constitute of \$5.7 billion received by British Columbia, On the other hand, for the provincial level, it will contribute \$23.2 million per year to British Columbia and an addition of \$3.4 million per year than its current amount of contribution. In terms of job opportunities, the project would generate approximately 800,000 direct, indirect and induced person-years of employment and higher netbacks (Kinder Morgan Inc., 2017). During the construction of the project, it will create 15,000 new jobs. The project also ensures to provide \$300 million commitment fund to the indigenous group also funding \$64.7 million for Indigenous pipeline environment committee to ensure ongoing monitoring of the project (Natural Resources Canada, 2017).

*b. Enbridge's Line 3 Replacement Project (L3RP)*

Enbridge's pipeline is one of the key existing pipelines in Canada. Line 3 is an integral part of Enbridge's Mainline System. The original Line 3 pipeline was constructed in the 1960s and the Line 3 Replacement Project will replace the 1,067 km existing pipeline that transport oil from Hardisty, Alberta to Gretna, Manitoba. The \$4.8 billion project is estimated to generate significant economic benefits to Canada approximately contributing to \$514.7 million government revenues from taxes and royalties. The construction of the replacement project is estimated to create 7,000 new jobs for Canadians (Natural Resources Canada, 2017). In addition, the L3RP is estimated to contribute significantly to Canada's GDP amounting up to \$2.87 billion through the project's design and construction phases (Enbridge Inc., 2017).

## **B. Environmental Considerations of Canada's Energy Highways**

Since the approval of the two contentious pipeline projects by the federal government, Trudeau's vocal commitment to bringing Canada to be the climate leader in fighting climate change is questioned. The decision prompted protests and criticisms from various environmental groups arguing that Trudeau's rhetoric are in stark contrast with his actions. This section presents the environmental effects of the pipeline using the parameters of environmental assessment tools of pipelines in an Environmental Impact Statement usually given by the federal government. In addition, in this section, it will be shown the environmental concern for the two approved pipeline projects in Trudeau's administration.

### *1. Environmental Effects of Pipeline Construction and Operation*

It is no doubt that all pipelines will have environmental impacts and the aspects include atmospheric environment, acoustic environment, soils, geology and terrain, vegetation, wildlife, surface water resources, freshwater fish

and fish habitat, hydrogeology, and paleontology. The atmospheric environment can be translated to the air quality that may be affected by dust especially during the construction phase of the pipeline project and by air contaminants emitted by the combustion of fossil fuels which are mainly used for construction equipment and pumping stations. The acoustic environment is how the noise level is increased by construction activities and pumping stations' operations. During the construction of pipeline projects, soils around the location have the potential to be eroded, contaminated and removed and they can even be acidified by the local emissions of chemicals. Pipeline project construction and operation also have the possibility to cause alterations of geology, which can cause landslides. Activities such as clearing of vegetation and the grading and placement structures in water which are related to the pipeline have the potential to affect the habitat of fishes particularly in their productive capacity, health, and mortality (Williams, 2012).

## 2. *Pipeline Leaks and Ruptures*

The direct environmental impacts of pipelines can be said to be relatively low. However, the biggest concern of pipelines would be on the possibility of leaks and ruptures. The biggest threat from pipelines that will impact not only the environment but the human life would be the accidental release of oil, gas or petroleum products. Although crude oil and petroleum products have different potentials to combust, most of them can catch fire or explode that can create a hazard for the environment. They also contain benzene, hydrogen sulfide, toluene and xylene which are all toxic chemicals (Williams, 2012). Pipeline ruptures are becoming less frequent but it is not uncommon to happen in Canada. The 2014 report from NEB shown that the most recent pipeline ruptures occurred in 2014. Meanwhile in the case of the pipeline projects approved, in 2007, Enbridge's Line 3 had a crack as a result of fatigue which leaked approximately 990 m<sup>3</sup> oil (National Energy Board, 2017).

### 3. *Environmental Considerations of Canada's Approved Pipeline Projects*

#### a. *Kinder Morgan's Trans Mountain Expansion Project*

Kinder Morgan's TMX project becomes a very controversial and divisive issue in Canada for various reasons including the concern of many environmental groups and the First Nations on the GHG emissions the project would cause particularly due to its function in transporting oil sands, and Kinder Morgan's safety and oil spill record.

In its report in 2016, Environment and Climate Change Canada (2016) showed that the estimated GHG emissions associated with the entire Trans Mountain pipeline system that transport approximately 890,000 barrels of oil per day would range from 21 to 26 Mt CO<sub>2</sub> eq (megatonnes of carbon dioxide equivalent) per year. Meanwhile for the TMX project that will add the capacity by 590,000 per day from 300,000 barrels, is estimated to have caused GHG emissions that would range from 13 to 15 Mt CO<sub>2</sub> eq per year (Environment and Climate Change Canada, 2016).

Another main concern on the Kinder Morgan's TMX project is that the Trans Mountain pipeline is a pipeline that also transports tar sands or oil sands. The process of extracting the oil from Canada's tar sands is considered to be highly destructive to the environment compared to crude oil. Most environmental groups and the First Nations are concerned that the approval and thus the construction of the pipeline could lead to the expansion and development of the tar sands that would bring hazardous impacts for aboriginal communities (First Nations) and the climate. There are approximately 120 First Nations and Tribes in Canada that have vocally and explicitly resist tar sands pipelines (Greenpeace, 2017). These First Nations that are highly against the Kinder Morgan project are based in British Columbia. On the other hand, environmental groups that are against the project are also many. There are approximately 20 environmental groups that actively oppose the TMX project. These groups range from large international groups such as Greenpeace and 350.org, a

multi-issue group such as LeadNow and regional environmental groups that are mostly in British Columbia (Hoberg, 2016).

The main environmental considerations of every pipeline projects as discussed above is the possibility of oil spills through leaks and pipeline ruptures. On its track record, Kinder Morgan Inc. and its subsidiaries and joint ventures had 213 spills totaling in the leaks of 21,598 barrels of oils that contain hazardous chemicals. Of those spills, 172 were refined petroleum products, 35 were crude oil spills and 6 were highly volatile liquids (HVL) (Greenpeace, 2017). On the Trans Mountain pipeline, Kinder Morgan has been responsible for 4 major oil spills that occurred in Abbotsford in 2005 – the pipeline was ruptured and resulted in the spills of 21,000 liters of crude oil, Burnaby in 2007, rupture that resulted in the dumping of 250,000 liters of crude oil where 11 houses were sprayed with oil and 250 residents fled their homes, Burnaby in 2009 – where 200,000 liters of oil seeped from storage tank that caused fumes, and Sumas in 2012 – an oil leak incident that leaked 110,000 liters of oil (Conversations for Responsible Economic Development, 2016).

*b. Enbridge's Line 3 Replacement Project*

Enbridge Line 3 Replacement Project that is known to increase the capacity of the pipeline to transport 760,000 barrels of oil per day is estimated to cause GHG emissions between 21 to 27 Mt CO<sub>2</sub> eq per year (megatonnes of carbon dioxide equivalent per year). Measuring from the capacity of the pipeline that the project brought – which is 370,000 barrels per day, the GHG emissions measured only by the capacity the project added is around 10 to 13 Mt CO<sub>2</sub> eq per year (Environment and Climate Change Canada, 2016).

Enbridge is also among the three tar-sands companies that have a serious track record of pipeline spills. Enbridge with its subsidiaries and joint ventures have a total of 147 spills that totals to the spills of 40,794 barrels of hazardous liquids. Half of Enbridge's total oil spills come from its

catastrophic diluted bitumen spills in Kalamazoo River in 2010 that totals to 20,082 barrels of diluted bitumen. Greenpeace in its report in November 2016, estimated that the Line 3 Replacement would have one significant spill per year or about 51 such spills over the pipeline's lifetime. This estimation was done by using decadal averages for crude oil (Greenpeace, 2017).

### **C. National Branding**

In weighing the options that face Canada, both approving and disapproving the pipeline projects would serve as Canada's national branding. The disapproval of the proposed pipeline projects would be a decision that would spark support from the environmental groups and would show Canada's strong commitment to combatting climate change and strengthen its position on its word and promises. The disapproval would also serve as a national branding where Canada shows to the global world that their words are in line with their actions and that they are really prioritizing the livelihood of the environment. However, on the other hand, the decision to approve the proposed pipeline projects, although controversial can be seen as potentially Trudeau's way of national branding. Previously Justin Trudeau came up and promised for the better environment for Canada and brought Canada to the spotlight of the international stage through its active campaign to combat climate change particularly in the COP21. The decision to approve the controversial pipeline projects undoubtedly sparked debate. Despite the divisive political debate as a result of the decision, Trudeau's government remained optimistic and convinced Canadians and also the global society of how in Canada, their economic development can go hand in hand with the environmental sustainability. Trudeau showed this in his speech when he announced the approval of the proposed project in November 2016: *"We believe they will help provide the growth and resources we need to spur Canada's clean energy transition. We believe they prove that responsible*

*resource development can go hand in hand with strong environmental protection” (Government of Canada, 2016).*

From his statement, it is clear how Trudeau intends to show that Canada under his leadership wants to create a sustainable economy and prove that despite their dependence on the energy sector which is usually clashing with the environment, Canada will make sure that their environment will be protected. If Canada is to be successful in proving how they can still meet their Copenhagen target to reduce 30% of their GHG emissions or to 517 Mt by 2030 with the pipeline projects proposed operating, this would create a new face of Canada in the international stage as a global leading sample of a state with stable economy and sustainable environment.

According to Graham T. Allison, states are rational actors that formulate their decisions based on their set goals or nation’s interests through rational calculations. States would pursue an option or alternative that would benefit them the most and have less cost (Allison, 1971). A state’s national interest according to Morgenthau is the sovereignty and security of the state. After this, the promotion of the state’s economic interest is another vital interest and the goal of state’s foreign policy. The state would always strive to adopt a course of action, which brings economic prosperity (Holsti, 1978).

In analyzing why Canada chose to approve the pipeline projects, reflecting on the rational choice decision-making model, Canada had two alternatives which are to approve the decision or to disapprove the decision. These alternative options are then calculated in terms of the consequences or the costs and benefits it may bring to Canada. Allison, in his explanation, offers two propositions:

- a. An increase in the costs of an alternative (reduction of benefits granted by the alternative action) reduces the likelihood of the action being chosen

- b. A decrease in the costs of an alternative (increase in the benefits that will follow from an action) increases the likelihood of that action being chosen.

The approval of pipeline projects would no doubt result in a boost of Canada's economy as it would further explore Canada's oil and gas sector potential and expand its market relations transporting more oil across its borders. Both the TMX and Line 3 Replacement projects will benefit Canada through tax revenues, royalties and employment starting from the construction of the projects to its operations. In addition, the pipeline projects are vital in transporting Canada's energy which maximizes Canada's energy potentials. Although the decision upset various environmental groups and received resistance from the First Nations arguing about how Canada won't achieve its GHG emission target and that the project could harm the environment through pipeline leaks and ruptures potentials, the Canadian government has ensured through its comprehensive Pan-Canadian Framework in Climate Change that the carbon pricing system would help in ensuring companies to reduce their emissions. This decision is also supported by Canadian Safety Pipeline Act that was introduced in 2016 that would ensure companies to have safe pipeline system and to be responsible if anything such as ruptures or leaks happen.

Trudeau himself stated that the decision to approve was in the best interest of the country and to Canadians. He stated in his announcement speech:

"This is a decision based on rigorous debate, on science, and on evidence. We have not been and will not be swayed by political arguments, be they local, regional or national. We have made this decision because we are convinced it is safe and it is the right one for Canada. The decision that we took today is in the best interests of Canada and the best interests of Canadians, it is a major win for Canadian workers, for Canadian families, and for



the Canadian economy now and into the future" (D'Amours Kestler, 2016).

Simply put, options with less cost and higher benefits that are in line with the state's national interest would be chosen. The considered the options' costs and benefits have been elaborated throughout this chapter and are put in the following table below:

**Table 6.4.6 Rational Choices: Cost and Benefits of Canada's Options**

Alternative Options	Costs	Benefits
Approving the pipeline projects	<ul style="list-style-type: none"> <li>- Prompting worldwide criticisms from environmental activists, NGOs, and the public, which protest against the environmental harm that the pipeline projects can bring.</li> <li>- A potential risk that Canada may not achieve its carbon emission target by 2030 as vowed in Paris Agreement</li> </ul>	<ul style="list-style-type: none"> <li>- Increasing Canada's economic growth through export revenues</li> <li>- Opening up jobs and increasing employment for Canadians</li> <li>- Expanding Canada's GDP</li> <li>- Potentially as national branding where Canada can sustain its economy particularly in the energy sector while putting great concern on environment</li> </ul>
Disapproving the pipeline projects	<ul style="list-style-type: none"> <li>- Losing increased revenues from the energy industry sector</li> <li>- Closing the source of job creation</li> </ul>	<ul style="list-style-type: none"> <li>- National branding of Canada showing high commitments to combatting climate change</li> </ul>

The pipeline projects were approved not only merely considering the economic benefits blindly but are ensured by the NEB with specific conditions including the environmental

considerations and assessments. Moreover, the standard of operations (SoPs) and binding conditions regulated by the NEB towards the pipeline projects serve as the mechanism to ensure the safety of these pipeline projects not only during its construction but through the whole process of operation until its abandonment.

Canada under Justin Trudeau's leadership has come to approve the pipeline projects as a result of rational calculations whereby the decision would best lead to Canada's economic interest. The costs of the decision have been overpassed by Canada's comprehensive frameworks and mechanisms that will ensure Canada's environmental sustainability.