



# THE SCHOOL OF PUBLIC POLICY

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## MASTER OF PUBLIC POLICY CAPSTONE PROJECT

TransCanada's Pipeline Stalled by Pathos: A Content Analysis of Keystone XL on Twitter

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## Capstone Executive Summary

Gaining public and political support for the Keystone XL pipeline project was impeded by the use of social media as a mass mobilization tool. Online discussions about the Keystone XL pipeline were dominated by negative sentiments that resonated with public audiences. Groups that opposed the Keystone XL pipeline had a consistent and regular social media presence that used both proactive and reactive messaging.

This research project analyzes the success of the environmental movement on Twitter in terms of using techniques to mobilize supporters and exert mass message control. The results show that the success of the environmental movement can be attributed to the strategic use of coalition building and emotional messaging on Twitter. Anti-pipeline activists recruited like-minded organizations to disseminate consistent and coordinated messaging. Such groups used emotional messaging that evoked fear. Pro-pipeline activists attempted to use a job creation messaging to relay the benefits of the pipeline to public audiences. However, the results of this research project show that messages that appeal to logic are disseminated at a negligible rate compared to emotional messaging. The pro-pipeline messaging did not resonate with public audiences as it lacked an emotional appeal and an effectively managed dissemination strategy.

The social media reach of the environmental movement was aided by coordinated hashtags, words and phrases that were disseminated by various Twitter accounts with a large following. The pro-pipeline movement did not exemplify the same level of coordination or unity, which hindered its ability to reach a wide audience with its message.

Recommendations for social media mobilization include:

1. Using appeals to emotion, credibility and logic to persuade audiences.
2. Using coalition building, consistent and long-term engagement strategies.
3. Developing a carefully constructed strategy for characterizing opponents.

## Introduction

The public debate surrounding the construction of the Keystone XL pipeline project has led to the mass mobilization of individuals via both new and traditional media channels. The social media movements that mobilized in response to TransCanada's Keystone XL pipeline had a profound impact on public perceptions of this major energy project. Social media movements used large-scale and coordinated Twitter campaigns to mobilize individuals. The environmental movement, in collaborative relations with like-minded organizations, used social media to facilitate personalized public engagement and mass opposition to pipeline projects.

Twitter conversations about the Keystone XL pipeline project have become a proxy for the broader, more contentious debate around climate change and resource development in Canada and the United States of America. President Barack Obama ultimately vetoed the Keystone XL pipeline project on February 26, 2015.<sup>1</sup> Thus, conducting a content analysis of tweets is useful to understanding the effectiveness of the social media strategies that are carried out by political, industry and environmental actors. This project will use content analysis to analyze the media strategies of prominent actors, particularly TransCanada Corporation, in regards to disseminating Twitter messaging about the Keystone XL pipeline, which led to the presidential veto. This research project will analyze Twitter dialogues in order to identify rhetorical techniques that capture broad online audiences.

This research project will conduct a content analysis of 2,094 tweets to measure the public's beliefs, values and emotions associated with the Keystone XL pipeline project. The research will evaluate the social media strategies of corporations, individuals and environmental groups through analyzing the number of followers and the language used by

prominent accounts. The project will reveal how social media movements persuade audiences and subsequently shape public opinion and political decision-making. Drafting and responding to tweets using 140-character messages or phrases to persuade audiences is key to developing an interactive media strategy. Corporate communications strategies must evaluate and respond to online activism to counteract negative sentiments. Policy-makers are heavily influenced by public opinion, which is swayed by social media campaigns. As such, the relevance of this project extends beyond pipeline proponents as research concerning persuasion and Twitter has become a new form of public opinion research. This research project will ultimately provide recommendations for how policy makers, corporations and interest groups can proactively respond to online activism, and the risks associated with implementing a proactive social media strategy.

## **Literature Review**

The use of Twitter as a conversation platform has drastically changed the nature of political and issue campaigns since its inception in 2004. Traditional communications materials such as news releases, press conferences and advertisements continue to be prevalent; however, the use of social media tools has added a new dimension of public engagement to communications. In particular, the use of Facebook and Twitter has created an added dimension of social activism, campaign management and crisis communications.<sup>2</sup> As a result, corporate and political communications strategies must account for the increased coordination of organizations and individuals using social media to create networks, structure protest movements and spread their views in the mass digital world.<sup>3</sup>

Twitter is the most popular micro-blogging tool used by individuals worldwide, and it has been suggested that the “Twittersphere” appears to serve three major purposes that propagate the mass use of this new media tool. Users will engage with the Twitter platform to provide personal updates about their lives, to post real-time information and to gather information for professional and personal interests.<sup>4</sup> Therefore, much of the increased use of this tool can be attributed to the ease and pace of this online platform. Scholars note that the simplicity of messaging on Twitter has led to the mass mobilization of users on this platform.<sup>5</sup> The Twitter platform is formatted to allow subscribers to type a 140-character message called a “tweet” which is intended to get users to respond to the question: “What is happening?”<sup>6</sup> The character limit of the Twitter platform has created an environment where citizens are able to engage with organizations and politicians in a concise and quick manner that encourages citizen engagement. With a mere click of a “re-tweet” button, individuals feel that they have impacted online discussions. Thus, individuals use tweets to relay political dissatisfaction or support for a particular policy idea and their message has the ability to spread rapidly and gain online attention.

Traditionally apathetic individuals may engage in Twitter conversations about political or corporate issues, which can be attributed to the ease of using this platform. Prior to the use of Twitter, directly contacting a political candidate or elected official was challenging for individuals, as such engagement required a face-to-face meeting. In regards to political engagement it is common that “...people who are victimized by a problem may not seek political change as they do not see the problem as changeable...[and] do not believe they could bring about change.”<sup>7</sup> However, Twitter has changed this dispirited attitude of users as this tool



enables individuals to directly contact politicians and corporations, by tweeting at them. Scholars note that individuals must be intrinsically motivated to complete an activity for inherent satisfaction, and thus Twitter has created a platform where users feel engaged and subsequently satisfied.<sup>8</sup> Thus, the increased use of Twitter for political purposes has been successful in shaping an environment where “...campaign[s] and the political system as a whole appear more accessible to the average citizen.”<sup>9</sup> As a result, the use of Twitter has become critically important to the success of political, industry and stakeholder interests as this tool can be used to shape public perceptions through the mobilization of individuals via social media channels.

It is also important to note that social movements, such as the environmental movement in the Keystone XL conversation, use new media channels to coordinate with other mobilization techniques to further their positions. Individuals use social networks to “[challenge] domination by connecting with each other...and [to construct] alternative projects for themselves and society at large.”<sup>10</sup> Manuel Castells suggests that social movements that originate through Internet platforms are aided and legitimized through on-the-ground protest actions. The strength and intensity of Internet activity lends to face-to-face communication and protest movements. Social media networks use platforms, such as Twitter, to allow movements to “survive, deliberate, coordinate, expand” and ultimately reach wide audiences.<sup>11</sup>

Specifically, social movements use online platforms to occupy public spaces. According to the level of involvement of individuals in an online network, such interactivity can give rise to “[networks reforming themselves] as long as there are enough participants in the movement.”<sup>12</sup> In the context of the Keystone XL pipeline discussions, interest groups used

social media networks as a key part of their mobilization strategy. Demonstrations in public spaces may use the same messaging as the dominant messages on social media to develop message recognition for particular positions. For example, a protest movement in Washington, DC, on April 22, 2014 was called the “Reject and Protect” demonstration. This anti-pipeline demonstration recruited thousands of individuals to the American capital to “pound the Obama administration with a visual demonstration of their opposition to Keystone XL.”<sup>13</sup> This research study will conduct a content analysis of tweets to determine if social media was used to legitimize and develop message consistency for this anti-pipeline protest movement.

In addition, scholars note that social media platforms are being used in three main ways to encourage citizen engagement. First, Twitter is being used to build relationships between interests groups and other like-minded organizations or individuals. Tweets are made public, and thus Twitter provides a platform for interest groups to collaborate. In particular, such collaboration is beneficial to interest groups as relationship-building can “[strengthen] supporters’ commitment to [their] organizations.”<sup>14</sup> Second, social media platforms are being used by interest groups, specifically the environmental movement, to expand their number of followers and subsequently increase their “reach in cyberspace” to gain influence.<sup>15</sup> Finally, scholars have noted the importance of Twitter and online platforms for the coordination of political action. Digital networks have a self-organizing component, which allows for users to adjust to changing political circumstances. In other words, social media engagement can be both proactive and reactionary, which can increase the number of followers that users have. In addition, social media networks can support coalition building among organizations, allowing for additional content sharing and coordinated protest activity.<sup>16</sup>

In political campaigns, the concept of coalition building is essential to ensure political success. Campaigns are organized in an effort to persuade voters to join a coalition “and communication is the means by which persuasion takes place.”<sup>17</sup> Coalition building consists of “[speaking] persuasively to your universe of supporters, and more especially to undecided but potential supporters” that must be won to ensure an electoral victory.<sup>18</sup> A similar process applies to coalition building on social media, as observed by the Keystone XL pipeline debate. The end goal for the environmental movement was to reject the pipeline and stop it from being built. As such, this movement recruited like-minded organization such as the Sierra Club, the Natural Resources Defense Council and Inside Climate to disseminate their message. Their main message was to stop the Keystone XL pipeline project. The movement used numerous individuals, interest groups and not-for-profit groups to rally around this common message, which drastically increased the social media presence of their ideological position. Thus, the environmental movement has been coalition building on Twitter to ensure message consistency and to reach a wide audience.

Analyzing the way Twitter users engage in the Keystone XL pipeline discussions is valuable in terms of understanding rhetorical appeals that resonate with mass audiences. The environmental movement has been able to capture a large social media audience as anti-pipeline rhetoric dominates conversations surrounding the Keystone XL pipeline. Thus, conducting a content analysis to evaluate how interest groups use social media to disseminate messaging is useful to decipher techniques for executing issue campaigns on Twitter.

## **Aristotle's Rhetorical Appeals and Twitter**

Aristotle's understanding of rhetorical appeals and persuasion can be used to deconstruct how tweets can persuade audiences. The study of rhetoric aims to "understand how language and other symbolic forms can influence the way an audience thinks, feels or acts."<sup>19</sup> Rhetoric can be categorized as both a deliberate form of persuasive communication and an inevitable part of human interaction. The Greek philosopher Aristotle understood classical rhetoric in terms of three categories of rhetorical appeals or "proofs": ethos (credibility), pathos (emotion) and logos (logic). He noted that such appeals are necessary components of building a "good argument."<sup>20</sup> In other words, using carefully crafted appeals to credibility, emotion and logic are essential to ensure that messages resonate and ultimately persuade audiences.

Ethos refers to the persona or character of the subject, including their credibility and trustworthiness. Rhetoric can be used to demonstrate expertise, self-criticism and an inclination to succeed in an attempt to establish authority. Ethos can be established through creating similarities between the audience and the communicator, appealing to commonly held views of audiences. In addition, content that draws the audience to an organization's "qualifications, judgment, experience, and first-hand knowledge" contributes to the persuasive power of the subject to establish credibility.<sup>21</sup> In the context of the Twitter analysis, the researcher identified appeals to ethos if the integrity of TransCanada Corporation or a political party was mentioned in the 140-character tweet. Rhetorical appeals to ethos were primarily identified through tweets that used the words "liar" and "self-interested."

Appeals to pathos, or emotion, refers to the audience's feelings and relies on triggering emotions such as happiness, satisfaction, anger, pity or fear to persuade audiences.<sup>22</sup> Appeals

to pathos can be executed by the persuader through conveying a sense that he or she understands and relates to the needs, values and desires of the audience.<sup>23</sup> Appeals to emotion are linked to preexisting biases that are specific to cultural or institutional understandings. This is particularly relevant to the language used in tweets concerning the Keystone XL pipeline. Tweets containing the words “no”, “yes”, “support” or “reject” without any qualifications were categorized as appeals to emotion as there were no explanations provided, leading the researcher to conclude that such positions were based on preexisting biases and a lack of understanding. As such, tweets that exerted a position but were not qualified by logic or facts were coded as appeals to emotion.

In contrast, appeals to logos, or logic, are demonstrated by rhetoric that presents clarity and integrity in an argument. Such appeals must demonstrate that consideration has been given to components of argumentation and systems of reasoning.<sup>24</sup> It is important to note that appeals to logos may fail to demonstrate rationality; rather they demonstrate the appearance of rationality. This is an important distinction to be made in the context of the research presented in this paper, as tweets may contain information that seems logical but has not been fact-checked. However, such content is still categorized as an appeal to logos. As such, tweets that contained any reference to a statistic or a research study were categorized as an appeal to logos or logic.

Identifying appeals to ethos, pathos and logos provides a mechanism for understanding how negative sentiments dominated Twitter conversations about the Keystone XL pipeline project. The use of all three rhetorical appeals is crucial to the art of persuasion. In fact, the ability of an organization or an individual to persuade audiences is “subordinate to both

political knowledge...and to logic.”<sup>25</sup> As such, it is important to note that persuasive language uses all three rhetorical appeals, and therefore appeals to logic or credibility alone are not sufficient to influence mass audiences.

## **Methodology**

The data for this study consists of tweets about the Keystone XL pipeline. Tweets that use the hashtag #KeystoneXL were captured between January 9, 2015 and February 20, 2015. The data collection tool called ‘R’ was used to gather 133,947 tweets throughout this time period. R is “an integrated suite of software facilities [used] for data manipulation, calculation and graphical display.”<sup>26</sup> As such, the results from the Twitter API were captured using R, which is a software tool that can be programmed to identify designated keywords and hashtags. The R environment captured tweets with the #KeystoneXL hashtag and the results were exported to an excel file. Based on the large sample of tweets, the sample size was condensed through a random sample, and 1,047 tweets were analyzed from February 4, 2015 and February 11, 2015. In order to ensure random sampling, the tweets were sorted through removing every second line on an excel spreadsheet to reach a sample of 1,047 tweets from each day. A total of 2,094 tweets were used for this analysis, 1,047 from both the control and treatment groups.

The researcher used February 4, 2015 as the control group. This sample includes conversations leading up to the Congressional decision to approve the Bill authorizing the construction of the Keystone XL pipeline, which occurred on February 11, 2015. There were no major political decisions issued on February 4<sup>th</sup>, and thus the tweets from the control group are dominated by supplemental discussions about the Environmental Protection Agency’s (EPA)

letter to the U.S. Department of State about the environmental impact of the Keystone XL pipeline. The EPA is a federal government agency that has a mandate to “protect human health and the environment.”<sup>27</sup> The EPA issued a letter on February 2<sup>nd</sup>, 2015 that contributed to the negative Twitter sentiments about the Keystone XL pipeline. The letter stated “over the 50-year lifetime of the [Keystone XL] pipeline, this could translate into releasing as much as 1.37 billion more tons of greenhouse gases into the atmosphere.”<sup>28</sup> Thus, the dominant message from the letter, which was referenced on Twitter, was that the EPA indicated that the “development of oil sands crude represents a significant increase in greenhouse gas emissions.”<sup>29</sup> As a result, the environmental movement mobilized behind the message that the Keystone XL pipeline would “worsen global warming.” This emotional message was one of the most prominent negative sentiments that dominated the sample of tweets from February 4<sup>th</sup>, 2015.

In addition, tweets from February 11<sup>th</sup> were used as the treatment group as a major political decision about the Keystone XL pipeline occurred on this date. The researcher chose to analyze tweets from this day because the U.S. Congress passed a Bill to approve the construction of the long-pending Keystone XL pipeline on February 11, 2015. The researcher found that the Twitter dialogues from this controversial decision engaged numerous stakeholders.

Identifying the differences between the control and treatment groups is necessary to analyze the results presented in this research study. The differentiating characteristic between the control and treatment groups is the news that occurred on each day. The control group, or the results from February 4, 2015, should be viewed as a “regular day” where there were no major news stories, as the conversation on Twitter was focused on a report from the

Environmental Protection Agency that was released on February 2, 2015. However, the treatment group, or the results from February 11, 2015, was taken from a day that was dominated by a major political decision. The decision of Congress to approve a Bill that authorized the construction of the Keystone XL pipeline occurred on this date. As such, the Twitter conversations consisted of tweets that were initialized by news sources. News sources disseminated tweets that aimed to notify audiences about this controversial decision, rather than relay an opinion about this major energy project. As such, stakeholders and media sources were actively engaged in the sample from the treatment group based on the major political decision that occurred on February 11, 2015.

The researcher individually coded the random samples of 1,047 tweets, from both the control and treatment groups. The researcher coded tweets in terms of appeals to ethos, pathos, and logos or neutral using the numbers 1, 2, 3 and 0. Appeals to ethos, or credibility, were determined by appeals that referenced the character of an individual or challenged the legitimacy of the claims made by TransCanada Corporation. An appeal to pathos, or emotional messaging, was any message that indicated direct or indirect support or opposition to the pipeline project. Appeals to logos, otherwise identified as appeals to logic, were identified by references to statistics or facts. Tweets that contained numbers, in terms of job creation or emissions, were sorted as appeals to logic.

The researcher also coded tweets as negative (1), positive (2) or neutral (3). Positive tweets indicated support for the pipeline, and contained words such as “timetobuild” or “support”. Negative tweets indicated a negative opinion of the pipeline project, and were dominated by descriptors such as “noKXL” or “reject”. Neutral stories contained an equal share



of positive and negative language, or a mere restating of ideas, which was primarily observed through the tweets disseminated by news sources.

The following examples demonstrate the coding process that was carried out by the researcher for the purposes of this study. For instance:

- *PatRCO* RT @AnnemarieWeers: The @GOP is now a fully-owned subsidiary of the #KochBrothers. You have no credibility at all.#NO #KeystoneXL <http://t...>

The tweet from the *PatRCO* account was coded as negative (1) and as an appeal to ethos (1). The tweet specifically references the credibility of pipeline proponents. As such, the tweet was coded as an appeal to ethos, or credibility. The tweet was found in the control group.

- *Emilymusic* EPA says #KeystoneXL will worsen global warming. Sign the petition and tell the President to reject it! --&gt; <http://t.co/F7Q14gDfWW>

The tweet from the *Emilymusic* account was coded as negative (1) and as an appeal to pathos (2). This tweet does not relay a statistic to explain how Keystone XL “will worsen global warming.” As such, the tweet was coded as an appeal to pathos, or emotion. The tweet was found in the control group.

- *becky\_dale* RT @thehill: BREAKING: House sends #KeystoneXL bill to Obama <http://t.co/WAqMlxoWoc> <http://t.co/wzS33wisqz>

The tweet from the *becky\_dale* account was coded as neutral. The content of this tweet is a re-tweet of a news story, which relays the political events of the day. There is no argument made or position detected in this tweet. The tweet was found in the treatment group.

- *moxyladies* #KeystoneXL impact on global warming should be reviewed #EPA <http://t.co/Pg9w0pfHPb> #oilsands crude 17% more #emissions than average crude

The tweet from the *moxyladies* account was coded as negative (1) and as an appeal to logos

(3). The content of this tweet relays an argument that Keystone XL will produce more emissions and this message has a negative connotation. The tweet also contains a statistic and a reference to the Environmental Protection Agency. As such, this tweet was coded as an appeal to logos, or logic, as evidence is provided to support this anti-pipeline position. The tweet was found in the control group.

- *HouseSmallBiz* #AmericasNewCongress is moving solutions to create jobs & grow the economy. RT if you agree! #KeystoneXL #Time2Build <http://t.co/9o2wuEf2A7>

The tweet from the HouseSmallBiz account was coded as positive (2) and as an appeal to pathos (2). The content of the tweet references jobs and economic growth, which are pro-pipeline key messages. However, the tweet does not contain statistics or the number of jobs that would be created by the project, demonstrating that the messaging is emotional in nature and is an appeal to pathos. The tweet was found in the treatment group.

Following the coding process, the tweets were analyzed in an excel file for the content analysis. The tweets were sorted within an excel spreadsheet to identify the users with the highest number of followers. Following this process, the tweets from each date were exported to a PDF file so that the researcher could identify the number of times particular phrases or words were referenced. Once exported, the Advanced Search Tool was selected and this enabled the researcher to enter keywords and hashtags to identify the number of times that particular phrases appeared in the sample.

It is important to note that the Advanced Search Tool was programmed to record all mentions of the words or phrases that were entered, and this could reveal a potential flaw in the data. Through using this search tool, the words immediately prior or following the keyword

could change the meaning of the tweet. In order to work around this limitation, this research study focuses on the use of hashtags, in addition to the positive and negative words and phrases, to account for this data limitation. As such, a comprehensive analysis of hashtag use, words, phrases, positive and negative sentiments form the basis for the recommendations included in this research study.

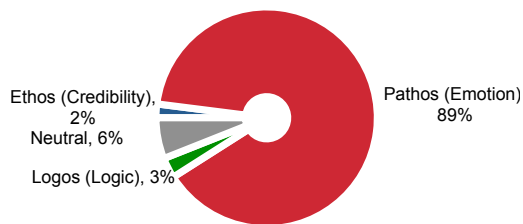
In regards to the key terms that were searched in the sample, the researcher compiled a list of commonly referenced words and phrases during the coding process. Thus, the collection of tweets was subject to the interpretation of the researcher, who used discretion about the categorization of tweets. All tweets, including re-tweets (RT) and tweets from news sources were considered in the sample because this analysis enabled the researcher to more accurately evaluate the dissemination of messaging via Twitter.

## Findings

### Twitter Appeals: Ethos, Pathos and Logos

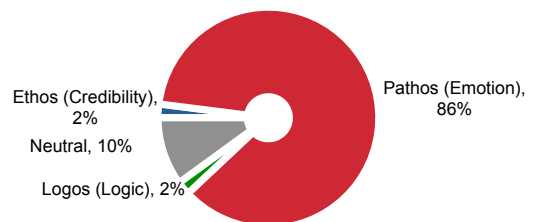
**Figure 1**

**Rhetorical Appeals - February 4, 2015**



**Figure 2**

**Rhetorical Appeals - February 11, 2015**



As demonstrated by the results in Figure 1 and 2 above, the majority of tweets concerning the Keystone XL pipeline were appeals to pathos. In the control group (Figure 1), 89

per cent of tweets were appeals to pathos, or emotion. Only two per cent and three per cent of tweets were appeals to credibility and logic, respectively. In the treatment group, the number of tweets that used appeals to emotion was 86 per cent. However, two per cent of tweets used appeals to credibility and two per cent used appeals to logic. In both the control and treatment groups, the overwhelming majority of tweets used emotional appeals. Messages that appealed to logic were disseminated at a negligible rate compared to emotional messaging. As such, the results show that appeals to logic, or using statistics in tweets, does not resonate with audiences. In addition, it is important to note that the results include re-tweets, which demonstrates that tweets are more likely to be re-tweeted by other accounts or individuals if emotional messaging is prevalent.

The researcher noted that pipeline proponents continually cite the number of jobs that will be created from the Keystone XL pipeline project. However, the results show that using facts and figures on the Twitter platform is a communications misstep, as such messages fail to resonate with the vast majority of users. Based on the research findings, messages that resonate with audiences have a clear emotional component. For example, content that asserts that the Keystone XL pipeline project is in America's national interest, or the argument that the pipeline will increase emissions and contribute to climate change, were more likely to capture the attention of audiences on Twitter. The results show that messaging is far more likely to dominate social media discussions if the content is rooted in emotional arguments that use exaggerated language and fear to mobilize audiences.

## Positive and Negative Sentiments

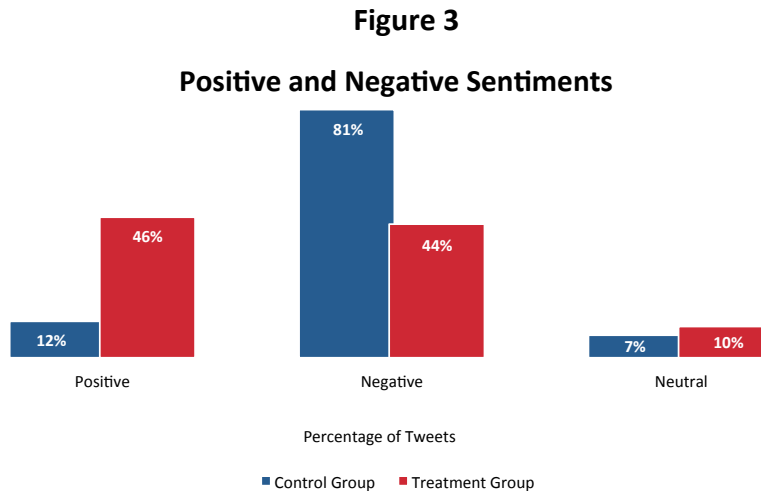


Figure 3 demonstrates that the control group was dominated by negative sentiments, meaning that on a “regular day” the Twittersphere was filled with overwhelmingly negative messages about the Keystone XL pipeline project. The results show that 81 per cent of tweets were negative for the control group, whereas only 12 per cent of tweets were positive. However, the treatment group has slightly more positive mentions than negative mentions, at 46 and 44 per cent respectively. Based on the political decision that occurred on February 11, 2015, which was favourable for pipeline advocates, it is unsurprising that there were a large number of positive sentiments on this date. Many of the tweets were congratulating the U.S. Congress on approving the Bill that authorized the construction of the Keystone XL pipeline.

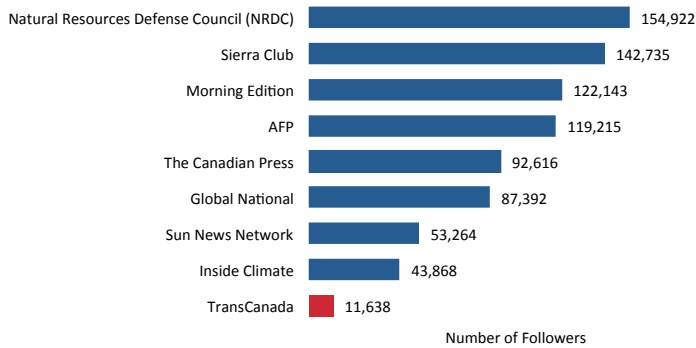
Interestingly, the results from Figures 1 and 2 show that appeals to pathos were prominent in both the control and treatment groups. In addition, the results from Figure 3 show that the positive and negative messaging surrounding the #KeystoneXL Twitter conversations use appeals to emotion. The results show that regardless of whether tweets are

positive or negative, emotional messaging resonates in the Twittersphere. Audiences can relate to messages that evoke feeling, which explains the dominance of emotional messaging on this platform.

### Dissemination of Messaging

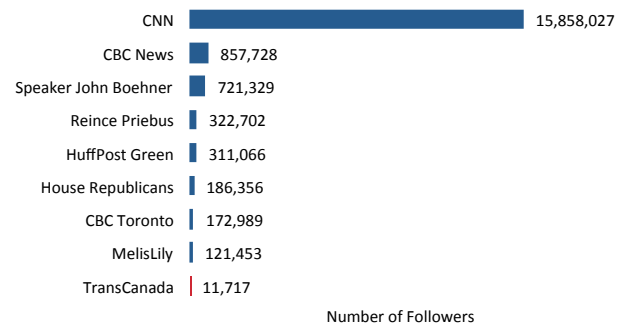
**Figure 4**

**Highest Number of Followers - February 4, 2015**



**Figure 5**

**Highest Number of Followers - February 11, 2015**



The results of this research project measure the dissemination of messaging from industry actors and the environmental movement through identifying the Twitter accounts with the highest number of followers. If an individual or an organization posts a tweet and they have a larger number of followers, this translates to greater exposure for their messaging. Popular Twitter accounts have a greater number of followers and can more easily increase their social media reach.

The researcher measured the top eight accounts that had the highest number of followers for the control group, and compared these numbers to the number of Twitter followers subscribed to the project proponent, TransCanada Corporation. Figure 4 shows that the account with the highest number of followers was the Natural Resources Defense Council, which had 154,922 followers on February 4, 2015. The Sierra Club had 142,735 followers on the

same date. TransCanada had 11,638 followers, demonstrating that the project proponent had 143,284 fewer followers than the anti-pipeline account with the most followers. It is important to note that news accounts represented five of the top eight accounts with the highest number of followers.

In terms of the treatment group (Figure 5), tweets from the Cable News Network (CNN) were included in the sample. This news account had 15,858,027 followers, far surpassing the Canadian news networks, as the Canadian Broadcasting Corporation (CBC) had 857,728 followers. The tweets from the treatment group represent online discussions from a date that was dominated by news media reporting on the decision of the U.S. Congress to approve the Keystone XL pipeline. Thus, it is not surprising that the top eight accounts with the highest number of followers were predominantly news media sources from the United States and Canada. An active spokesperson and supporter of the Keystone XL pipeline project, Speaker John Boehner, had 721,329 followers on February 11, 2015. Reince Priebus, the chairperson of the Republican National Committee, another vocal supporter of the Keystone XL pipeline, was the account with fourth highest following with 322,702 recorded followers. HuffPost Green was the only new media platform that appeared in the results, with 311,066 followers. The only account in the sample that belonged to an individual was an account managed by MelisLily, an anti-pipeline activist, and this account had 121,453 followers. In comparison, TransCanada had only 11,717 followers on February 11, 2015.

The number of followers that TransCanada had, in comparison with the anti-pipeline coalition, is reflective of a shortfall in this corporation's social media strategy. The reach of messaging is vitally important in terms of persuading audiences that the Keystone XL pipeline is

beneficial for the Canadian and American publics. The environmental movement used multiple like-minded allies with a substantial social media presence to disseminate their messaging. However, the pipeline proponent had a minimal number of followers, as compared to the top anti-pipeline activists. TransCanada and the pro-pipeline movement were able to recruit some major Republican politicians, such as Speaker John Boehner and Reince Priebus, to release pro-pipeline messaging. However, the volume of tweets disseminated by the environmental movement's coalition far surpassed the reach of the political allies that supported TransCanada's pipeline project.

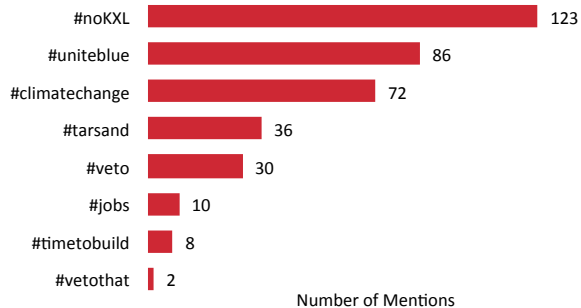
Facilitating political engagement from high-profile Republicans is a step in the right direction in terms of capturing an audience that is likely to support the Keystone XL pipeline. However, pro-pipeline activists were unable to move beyond their traditional base of supporters and expand their coalition of support. There is a disconnect in terms of recruiting like-minded corporations, interest groups and political actors that were in support of building the Keystone XL pipeline project. The pro-pipeline movement failed to secure the support of like-minded allies that had a strong social media presence, in the form of a large number of followers. The results from this Twitter analysis show that the winning strategy of the environmental movement on social media can be attributed to the successful dissemination of messaging through recruiting like-minded allies with a high number of followers to release coordinated content. The pro-pipeline movement did not exemplify the same level of coordination or unity, which hindered its ability to reach a wide audience with its message.



## Hashtags

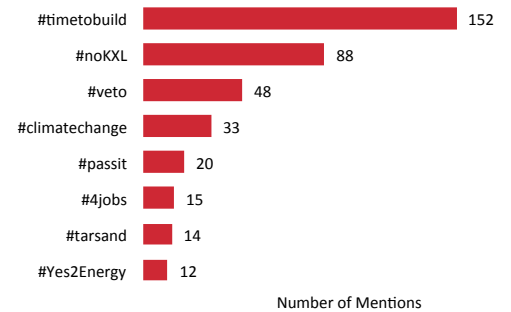
**Figure 6**

**Top 8 Hashtags - February 4, 2015**



**Figure 7**

**Top 8 Hashtags - February 11, 2015**



In the evaluation of the most popular hashtags used in the Twitter conversations surrounding the Keystone XL pipeline project, it is important to note that all of the tweets in the samples included the #KeystoneXL hashtag. As such, the results shown in Figure 6 and Figure 7 are the hashtags that were used in addition to the #KeystoneXL hashtag. The majority of Twitter users used the #KeystoneXL hashtag to participate in the online conversation about the pipeline project, as using the subject hashtag is a common form of engagement for Twitter users.

In the control group (Figure 6), the most common hashtags used in addition to #KeystoneXL were #noKXL (123 mentions) and #uniteblue (86 mentions). The #uniteblue hashtag is an example of one of the coordinated messaging strategies that was used by the environmental movement on Twitter. The Twitter account titled “Stronger Together” uses the handle @UniteBlue, and this account solely exists with the intention to, “[connect] real people of the Left because every voice matters.”<sup>30</sup> As such, the hashtag #uniteblue was used as an organized opposition movement to the Keystone XL pipeline project. Instead of solely using #noKXL, users that were opposed to the pipeline used the #uniteblue hashtag to show their

support for their left wing counterparts that expressed similar views. The name of the account, “Stronger Together,” depicts a coordinated social media strategy that was being effectively executed by the environmental movement in the Keystone XL pipeline discussion. This movement used multiple Twitter accounts that represented numerous third party groups to reach broad audiences with anti-pipeline messaging. This “united” movement exerted the view that the Keystone XL pipeline would substantially contribute to climate change by increasing emissions from the “tar sands.” Interestingly, the fact that this group was able to appear on the list of most commonly used hashtags demonstrates the success of a coordinated movement, rather than individual accounts acting alone. The #uniteblue hashtag represents the effectiveness of coalition building on social media platforms. Thus, coalition building on Twitter allows users to relay a consistent message from multiple actors and ultimately exert dominance in the social media space.

In terms of the treatment group (Figure 7), the most commonly used hashtags were #timetobuild (152 mentions) and #noKXL (88 mentions). This indicates that the polarizing messaging was split between the opposing sides, with the pro-pipeline hashtag having more mentions. It is clear that there were efforts on the pro-pipeline side to mobilize on February 11, 2015. The pipeline proponents also had a major victory on this day as Congress approved the Keystone XL Bill. As such, much of the dialogue on Twitter was reiterating support for this political decision. The researcher identified that the response of the pro-pipeline Twitter advocates was primarily a reactive response to the political events that transpired in support of the Keystone XL pipeline on February 11<sup>th</sup>. As such, the dominance of the #timetobuild sentiments demonstrated the ability of the pro-pipeline advocates to mobilize in response to a

positive political decision. However, it also raised concerns surrounding the ability of these advocates to proactively mobilize supporters in the Twittersphere during the entirety of the dialogues. Based on an analysis of the control and treatment groups it is clear that the dominance of pro-pipeline hashtags was concentrated during major news or political events, rather than a demonstration of continuous support throughout the long-term Twitter discussions.

In addition, the difference in hashtag use between the control and treatment groups indicates a significant trend in regards to long-term message consistency. The results indicate that the environmental movement is engaging in a strategy that focuses on long-term engagement on Twitter, whereas pro-pipeline individuals and groups are primarily participating during critical discussions. The #timetobuild hashtag was dominant on February 11<sup>th</sup> with 152 mentions; however, the #noKXL sentiments were also strong on this day with 88 mentions. In addition, the anti-pipeline activists also had a prominent presence on this date as the top eight most popular hashtags on February 11<sup>th</sup> included #noKXL (88 mentions), #veto (48 mentions), #climatechange (33 mentions), and #tarsand (14 mentions). The pro-pipeline messaging was relayed through the hashtags #timetobuild (152 mentions), #passit (20 mentions), #4jobs (15 mentions) and #Yes2Energy (12 mentions).

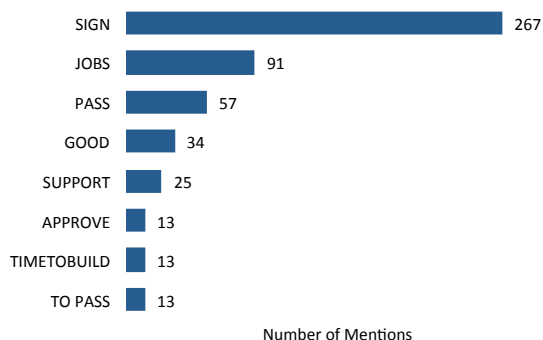
As such, the use of hashtags in the treatment group reveals that the presence of anti-pipeline activists was still strong, despite the fact that the most popular hashtag on that date was #timetobuild. The results from the control group reveal the success of the environmental movement in terms of consistently using anti-pipeline messaging in everyday discussions, rather than merely having a strong social media presence on days that consist of major political

decisions. Interestingly, on February 4<sup>th</sup>, the day when a letter was released by the Environmental Protection Agency, the pro-pipeline activists had a minimal presence in terms of dominant hashtag use. The anti-pipeline messaging dominated hashtag use on this day as six out of eight hashtags used anti-pipeline messaging including: #noKXL (123 mentions), #uniteblue (86 mentions) #climatechange (72 mentions), #tarsand (36 mentions), #veto (30 mentions) and #vetothat (two mentions). However, the pro-pipeline messaging was only represented by two hashtags that included #jobs (10 mentions) and #timetobuild (eight mentions). It is clear that the environmental movement dominated the messaging on this day as the pro-pipeline hashtags were mentioned a negligible number of times. Thus, the ability of the pro-pipeline movement to mobilize via social media lacks consistency. The results from this research study show that the strong and consistent message control exerted by the environment movement dominated the social media sphere because the pro-pipeline side did not mobilizing on a regular basis. The pro-pipeline movement appears to be selectively mobilizing on days where support is likely or when major political events take place, which limits their social media reach, their likelihood of being featured in traditional media sources and the persuasiveness of their messages.

### Positive Words and Phrases

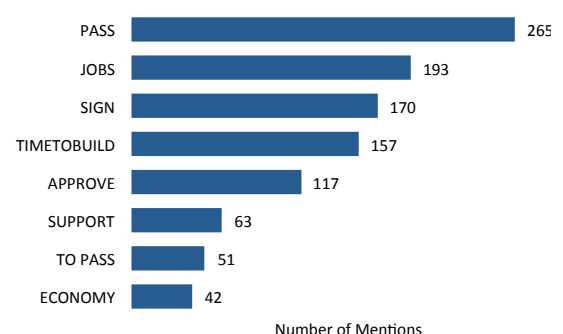
**Figure 8**

**Top 8 Positive Words and Phrases - February 4, 2015**



**Figure 9**

**Top 8 Positive Words and Phrases - February 11, 2015**



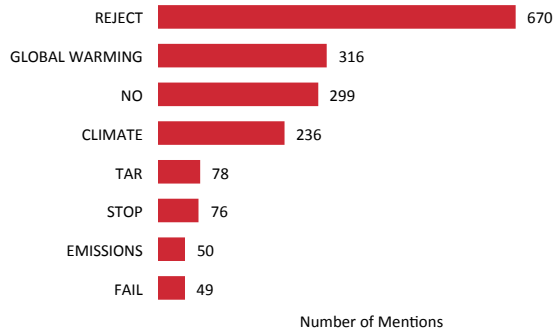
As demonstrated by the results presented in Figure 8 the eight most prominent positive words or phrases that were used in the Keystone XL Twitter dialogue for the control group were “sign” (267 mentions), “jobs” (91 mentions), “pass” (57 mentions), “good” (34 mentions), “support” (25 mentions), “approve” (13 mentions), “timetobuild” (13 mentions) and “to pass” (13 mentions). For the treatment group in Figure 9, the eight most prominent words or phrases were “pass” (265 mentions), “jobs” (193 mentions), “sign” (170 mentions), “timetobuild” (157 mentions), “approve” (117 mentions), “support” (63 mentions), “to pass” (51 mentions), and “economy” (42 mentions).

In terms of comparing the control and treatment groups, it is significant that the “jobs” message was dominant in both groups. The job creation message represents the benefits of the Keystone XL pipeline to the American population. However, the researcher noted throughout the coding process that the jobs message was difficult to quantify for public audiences. There were discrepancies in regards to the number of jobs being created, whether the jobs would be permanent or temporary and who would be hired for such jobs. Based on the uncertainty surrounding the “jobs” message it may have been more difficult for this message to resonate with public audiences as this message lacks clarity for the average Twitter user. In addition, the “sign” and “pass” messages are words that were primarily targeted towards President Obama and other policy makers, as such language was attempting to build support for the pro-pipeline sentiments.

## Negative Words and Phrases

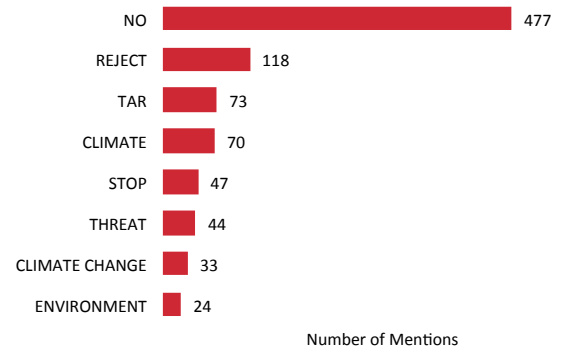
**Figure 10**

**Top 8 Negative Words and Phrases - February 11, 2015**



**Figure 11**

**Top 8 Negative Words and Phrases - February 11, 2015**



In contrast, as depicted by Figure 10 the eight most prominent negative words or phrases used in the control group were “reject” (670 mentions), “global warming” (316 mentions), “no” (299 mentions), “climate” (236 mentions), “tar” (76 mentions), “stop” (76 mentions), “emissions” (50 mentions) and “fail” (49 mentions). In addition, the eight most prominent negative words or phrases used in the treatment group (Figure 11) were “no” (477 mentions), “reject” (118 mentions), “tar” (73 mentions), “climate” (70 mentions), “stop” (47 mentions), “threat” (44 mentions), “climate change” (33 mentions) and “environment” (24 mentions).

The environmental movement used words like “tar”, “climate” and “global warming” to evoke fear and build support for anti-pipeline sentiments. By using such emotional appeals, actors in the environmental movement were trying to arouse fear in regards to the environmental degradation that would result from building the Keystone XL pipeline. Flanagan notes that in Canadian elections “fear has been the most important emotion, followed by anger or loathing.”<sup>31</sup> As such, rhetoric that draws audiences through creating fear is likely to influence

the perceptions of individuals, as such emotional appeals cause individuals to decipher what is right and what is wrong. It is clear that the use of terms such as “threat”, “tar”, “emissions” and “environment” are exaggerations being used to create fear among Twitter audiences, and ultimately contribute to the movement to “reject” and “stop” the Keystone XL pipeline project.

In addition, the results in Figure 10 validate the claim that social media rhetoric is aiding on-the-ground protest efforts. As previously discussed, the environmental movement facilitated demonstrations in 2014 under the banner “Reject and Protect.” The results from this Twitter content analysis confirm that such rhetoric was consistent on social media nearly a year later. Continually calling on supporters to tell President Obama to “reject” (670 mentions) the Keystone XL pipeline is a message that has been consistent throughout the social media campaigns carried out by the environmental movement. Thus, there is coordinated message consistency between social media campaigns and on-the-ground demonstrations. These advanced coordination efforts have led to the success of the environmental movement in terms of persuading audiences to align with anti-pipeline sentiments.

### **The Power of Pathos**

The dominance of emotional appeals on Twitter must be addressed in the social media strategies of interest groups and corporate actors. In the Keystone XL social media dialogues, TransCanada and pro-pipeline activists attempted to use a job creation message to logically appeal to public audiences in response to anti-pipeline sentiments that were dominated by emotional messaging. However, the findings of this research paper show that the use of logos is not enough to counteract the messaging of anti-pipeline groups. The anti-pipeline messaging

was primarily focused on content that stated that the Keystone XL pipeline would worsen global warming, increase greenhouse gas emissions and contribute to climate change. The job creation messaging is a mismatch in regards to responding to this kind of emotional messaging. TransCanada was unable to persuade audiences that the job creation benefits associated with Keystone XL would outweigh the risks associated with climate change. The jobs message was a logical argument, which did not resonate with public audiences because it lacked an emotional appeal.

Responding to emotional messaging on Twitter requires a carefully crafted strategy to shape public perceptions. This research project has identified two main approaches in terms of responding to emotional messaging on Twitter. The first option is that emotional messaging can be counteracted with similar emotional messaging that relays an alternative viewpoint. In other words, fully engaging in a battle of emotional messaging by using emotional appeals on both sides. In the case of the Keystone XL pipeline, the pro-pipeline side could have used appeals to patriotism to counteract the environmental movement's messaging about Keystone XL worsening global warming. Public audiences, particularly American audiences, identify with patriotic sentiments. For instance, messages from pro-pipeline activists could have included phrases such as "For America," "Make America Energy Strong," "Put American Interests First," or "For American Independence." Such messages use emotional appeals, which lack substance or explanations, to evoke nationalistic values in public audiences. Using the messaging "Make America Energy Strong" is a better fit to counteract the climate change rhetoric because this messaging uses emotional appeals to counteract emotional messaging.



For example, 2016 Presidential Candidate Donald Trump has been called the “master of Twitter” as he has been able to use emotional messaging to develop a “striking” online dominance that resonates with audiences.<sup>32</sup> Trump’s dominant social media presence can be attributed to the fact that he “...has expropriated key words, or hashtags, that communicate the way Americans communicate: in blunt and direct terms.” As such, analyzing how Donald Trump has characterized his pro-pipeline positions is useful to understand how activists could employ emotional messaging. For example, Trump’s tweets about Keystone XL contain content that appeals to patriotism.

- *realDonaldTrump* Iran is threatening to shut the Strait of Hormuz and @BarackObama won’t approve the Keystone pipeline. His energy policy makes America weak.<sup>33</sup>

In the tweet above Donald Trump questions the credibility and decision-making processes of President Barack Obama. He also includes emotional messaging through saying that Obama’s energy policy decisions are making “America weak.” As such, Donald Trump uses appeals to ethos and pathos in one tweet to delegitimize the decisions of Barack Obama and appeals to patriotism to create support for the Keystone XL pipeline project.

- *realDonaldTrump* Thanks to @BarackObama rejecting the Keystone XL pipeline, China has become Canada’s biggest oil consumer. China is laughing at us!<sup>34</sup>

In addition, in the tweet above Donald Trump uses exaggerated and emotional messaging to juxtapose China and America. Referencing Canada selling oil to China, instead of the United States of America, appeals to the international rivalry between these nations. Trump ties the Keystone XL project to a previously held position of pride for American audiences. As such, Trump cleverly uses an emotional message to garner support for Keystone XL by appealing to

patriotism and previously held pro-America positions. Contrasting China and America is a way to garner emotional reactions from audiences in 140 characters.

In addition, the second approach is to appeal to credibility through questioning the legitimacy of the opposition movements. Exposing the funding sources of environmental groups may undermine the legitimacy of the groups that are disseminating negative sentiments. Environmental activists attempt to appear as charitable actors that fund grassroots campaigns. However, groups like the Sierra Club are funded by a multi-million dollar fund called the Tides Foundation. The Tides Foundation paid the Sierra Club \$165,000 “for organizing and mobilizing opposition to the Keystone XL pipeline and other tar sands projects and for coordination with Canadian colleagues.”<sup>35</sup> As such, pro-pipeline proponents could expose the funding sources behind the environmental movement, and focus their messaging on delegitimizing the groups that disseminate negative messaging. Pro-pipeline groups could use emotional messaging and appeals to credibility by stating that the Sierra Club is “crooked,” “corrupt,” or repeat messaging that such groups are “funded by millionaires to destroy Keystone XL.” Such messaging will draw attention to the legitimacy of the claims put forward by such groups, as public audiences may be unaware of the extreme coordination and financial resources that are aiding the environmental movement.

Evidently, the use of messaging that appeals to logic is not enough to shape public opinion. Major energy corporations and pro-pipeline activists must consider the use of ethos, pathos and logos if they are serious about counteracting negative sentiments about energy projects on Twitter. Proponents must strategically analyze ways to characterize their opponents in negative terms to legitimize and persuade audiences that energy projects provide net

benefits. The environmental movement uses emotional rhetoric that relies on fear mongering to gain support. In order to respond to messaging that evokes fear, pro-pipeline actors must employ a strategic plan that also uses emotional messaging to garner support and legitimize energy development.

## **Conclusion**

It is clear that the environmental movement is using Twitter to gain influence and sway public perceptions about major energy projects. The environmental movement mobilizes supporters on Twitter through carefully crafted emotional messaging that is disseminated to a large audience. The successful mobilization of this movement can be attributed to the consistent and persistent social media strategy employed by various like-minded actors. In particular, an analysis of the control and treatment groups reveals a consistent social media presence by popular Twitter accounts that publish anti-pipeline messaging. Such messaging is primarily rooted in fear – fear of global warming, fear of climate change and fear of the greenhouse gas emissions associated with the Keystone XL pipeline. The environmental movement increased their social media reach through coordinating messaging with like-minded organizations and politicians, which led to dialogues being dominated by negative sentiments about the Keystone XL pipeline.

The pro-pipeline movement had a strong social media presence on February 11<sup>th</sup>, 2015, based on the political decision of the U.S. Congress to approve the construction of the Keystone XL pipeline. The messaging in support of the pipeline was primarily focused on the societal and economic benefits of job creation from the Keystone XL pipeline. However, the jobs message

was a risky overarching theme because this message was difficult to conceptualize and the target audience was unclear. As such, there was a failure in terms of selling the job creation message to public audiences, which allowed negative sentiments to dominate the Twittersphere.

In addition, the results from the treatment group demonstrate that the pro-pipeline movement used a reactive social media strategy to broadcast pro-pipeline messaging. This side lacked support from major interest groups with a large number of followers. As such, the dissemination of messaging from TransCanada's Twitter account, and from politicians, was insignificant compared to the reach of the coordinated actors that supported the environmental movement. The pro-pipeline activists had a minimal social media presence in "everyday" discussions about the Keystone XL pipeline project, which hindered their message consistency and exposure.

The results from this research project show that messaging is far more likely to dominate social media discussions if content is rooted in emotional arguments that use exaggerated language and fear to mobilize audiences. The environmental movement successfully evoked fear in audiences about the environmental impacts of the Keystone XL pipeline project. The coordination and consistent messaging strategies carried out the environmental movement have allowed negative sentiments to dominate social media discussions about the Keystone XL pipeline. The use of emotional messaging that focused on climate change ultimately resonated with audiences and led to the dominance of anti-pipeline sentiments directed at the Keystone XL pipeline project. Ultimately, Twitter users can sway public perceptions of major energy projects by employing coordinated social media strategies

that use emotional, logical and credible messages.

## **Recommendations**

*For public policy makers:*

*Active and regular social media engagement is necessary* for shaping public perceptions of public policy positions. Politicians can increase their number of followers through participating in daily Twitter discussions and making their positions clear and easy to understand, using plain language. Using the appropriate hashtags, to be included in the broader discussions, is a way that political actors can increase their social media reach and inform Twitter dialogues. In addition, engaging on social media during major decisions or during events does not substantiate an active social media presence. Continuous engagement, using emotional messaging and having a clear position are ways to increase reach and develop an online presence.

*For industry and interest groups:*

*Building coalitions is essential.* Using multiple media platforms is necessary to relay messaging to wide audiences. Using multiple Twitter accounts and building relationships with like-minded organizations determines which messages appear in traditional media stories and which messages are re-tweeted by accounts with a large following.

*Industry and interest groups must build long-term engagement strategies that focus on regular and consistent messaging.* Having a constant social media presence is the most effective way to persuade audiences and ensure that messages resonate. Engaging in

conversations during contentious discussions is inadequate in terms of reaching large audiences. Consistent and regular messaging from multiple accounts disseminating the same message is the most effective way to shape public perceptions via social media channels.

*Develop a carefully constructed strategy for characterizing opponents.* Drafting a response plan to counteract negative sentiments is critical in terms of shaping public opinion via social media channels. This can be executed through using emotional messaging to counteract fear mongering, and undermining the credibility of opponents through careful opposition research.

*Use appeals to emotion, credibility and logic to persuade audiences.* Drafting communications materials that strictly appeal to logic is inadequate. TransCanada's job creation message demonstrates that solely using appeals to logical reasoning does not resonate with online audiences. Using emotional messaging, in combination with an emphasis on logic and the credibility of opponents, is vital for persuading audiences on social media.

## Notes

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<sup>4</sup> Tamara Small, "What the Hashtag? A Content Analysis of Canadian Politics on Twitter," *Information, Communication & Society* 14, (2011): 875.

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<sup>6</sup> Tamara Small, "What the Hashtag? A Content Analysis of Canadian Politics on Twitter," *Information, Communication & Society* 14, (2011): 874.

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<sup>17</sup> Tom Flanagan, *Winning Power* (Montreal: McGill-Queen's University Press, 2014), 81.

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<sup>19</sup> Colin Higgins and Robyn Walker, "Ethos, logos, pathos: Strategies of persuasion in social/environmental reports," *Accounting Forum* 36, (2012): 197.

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<sup>22</sup> Ibid.

<sup>23</sup> Ibid.

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<sup>25</sup> Eugene Garver, "Artistotle on the Kinds of Rhetoric," *Rhetorica: A Journal of the History of Rhetoric* 27, no. 1 (2009): 9.

<sup>26</sup> What is R, R Project for Statistical Computing, last modified June 21, 2016, <https://www.r-project.org/about.html>.

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<sup>30</sup> Stronger Together @UniteBlue, Twitter account, <https://mobile.twitter.com/uniteblue?lang=en>.

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