

Panoramic Survey 2017—Analytical Briefing

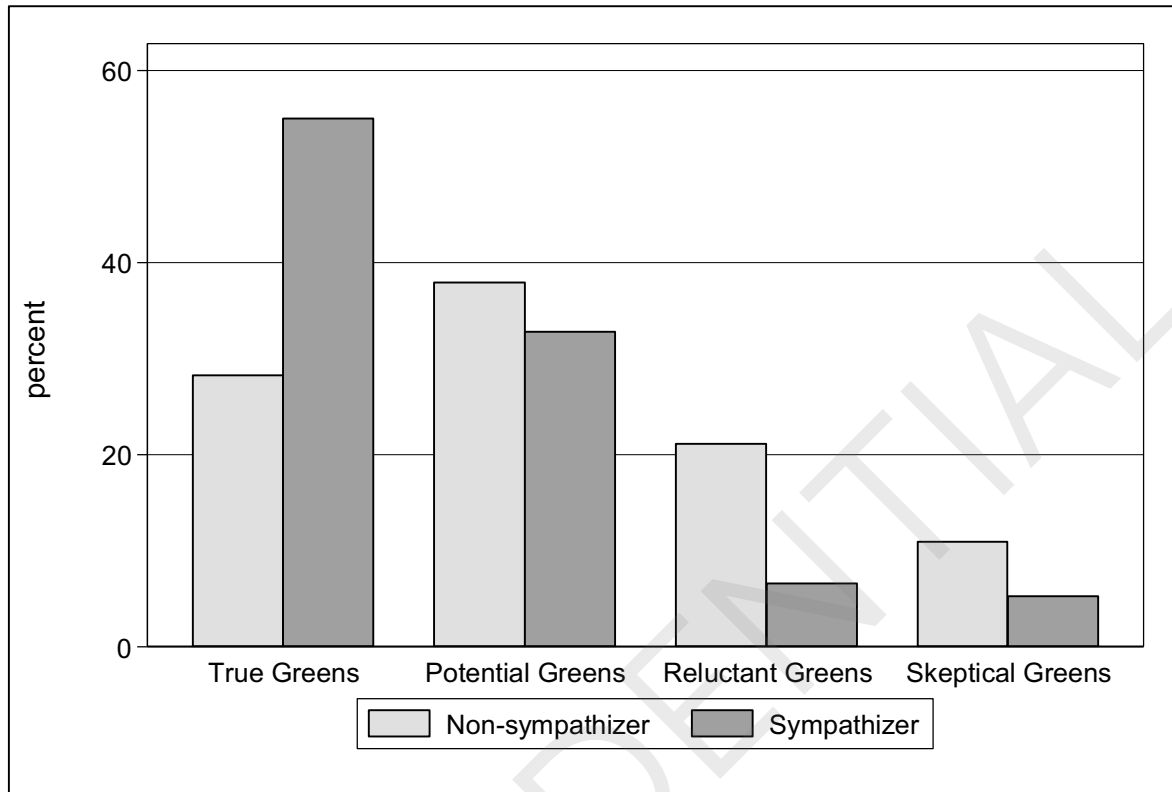
ENGO Sympathizers in Canada: A Closer Look

Partner organizations have asked for profiles of environmental group sympathizers in Canada. We define ‘sympathizers’ as Canadians in our sample who reported being “...a member, a follower, a donor or a volunteer with an environmental group.” Of the 3,000 completed interviews, 378 respondents reported being sympathizers, about 13% of our sample. To assist partners in learning more about the Canadians with whom they engage and how to address them, this analytical brief asks three questions: 1) What is the demographic makeup of ENGO sympathizers in Canada?; 2) Where do they get their information?; and 3) What factors are associated with being an ENGO sympathizer?

Who are ENGOs currently speaking to?

As shown in Figure 1, ENGO sympathizers are very correlated with the Shades of Green segmentation. If we look at the composition of ENGO sympathizers, we find that the majority (55%) are True Greens, followed by Potential Greens (33%), Reluctant Greens (7%) and Skeptical Greens (5%).ⁱ When speaking to their members, ENGOs are therefore much more likely to be speaking to True Greens than to any other segment. As documented in the 2017 Panoramic report, the overwhelming majority of True Greens say protecting the environment is very important to them (92%). People of this group also hold strong environmental values, such as biospherism (i.e. concern for nature and the environment), and are very convinced about their beliefs regarding the state of the environment. Canadians in this segment tend to be older, are more likely to be women, and have a university degree. More detailed analysis of the Shades of Green segmentation is provided in the 2017 Panoramic report.

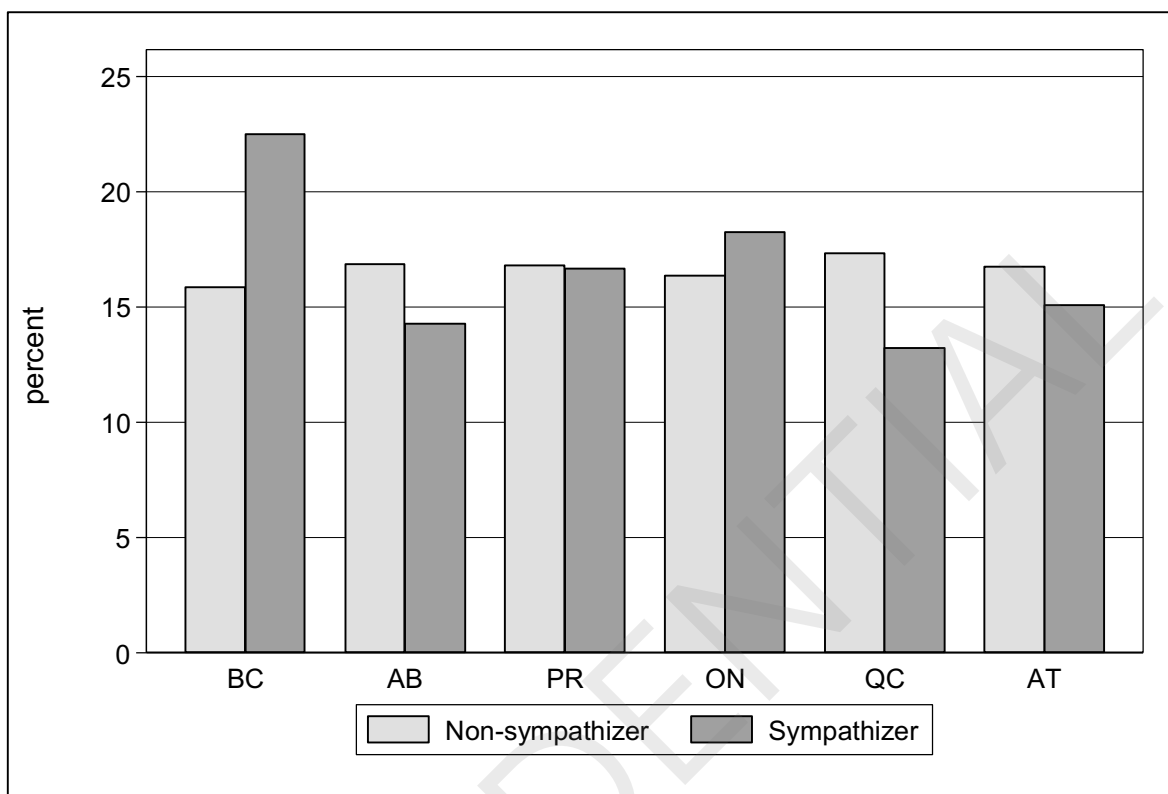
Figure 1: ENGO Sympathizers by the Shades of Green Segmentation



To be sure, not all Canadians falling into the True Green segment are currently ENGO sympathizers, and the 2017 Panoramic survey report suggests partners ought to target this group as a way of growing their membership. In fact, of the 950 respondents in our sample identified as True Greens (32% of the entire sample), 208 (or 22% of True Greens) report being an ENGO sympathizer. Similarly, of the 1,118 Potential Greens identified (37% of all respondents in our sample), a relatively small 124 respondents (representing 11% of the Potential Greens segment) report currently being a member, follower, donor or volunteer with an environmental organization. In other words, environmental organizations have substantial potential to grow their membership among the greenest segments in Canada.

More follows...

Figure 2: ENGO Sympathizers by Region



Further analysis of the 2017 Panoramic data reveal considerable variation in the regional distribution of ENGO sympathizers in Canada. As shown in Figure 2, a plurality of the 378 ENGO sympathizers in our sample (22%) are found in British Columbia. This is followed by Ontario (home to 18% of sympathizers), while Quebec, despite having the highest proportion of True Greens in their population, is home to the fewest proportion of ENGO sympathizers. This suggests that the environmental movement in Quebec has considerable potential to grow. Interestingly, we find no geographic pattern in the distribution of non-sympathizers across the country. We recommend using this information as a baseline to track the distribution over time to assess the work of partners that seek to engage Canadians in particular regions.

Table 1: Socio-demographic Characteristics of ENGO Sympathizers in Canada

	Non-sympathizers	Sympathizers
<i>Shade of Green</i>		
True greens	28%	55%
Potential greens	38%	33%
Reluctant greens	21%	7%
Eco-Indifferent	2%	<1%
Skeptical greens	11%	5%
<i>Region</i>		
British Columbia	16%	23%
Alberta	17%	14%
Prairies (Saskatchewan/Manitoba)	17%	17%
Ontario	17%	18%
Quebec	17%	13%
Atlantic provinces	17%	15%
<i>Gender</i>		
Women	51%	56%
Men	49%	44%
<i>Age cohort</i>		
Between 18 and 34 years old	25%	22%
Between 35 and 54 years old	34%	30%
Between 55 and 74 years old	36%	41%
75 years old or older	5%	7%
<i>Mother tongue</i>		
French	20%	15%
English	70%	76%
Other	10%	9%
<i>Household setting</i>		
Rural	43%	41%
Urban	58%	59%
<i>Education</i>		
No university degree	63%	51%
University degree	37%	49%
<i>Household income</i>		
Under \$40,000	24%	25%

\$40,000-\$79,999	35%	30%
\$80,000-\$119,999	24%	27%
More than \$120,000	16%	18%
<i>Ideology</i>		
Left	29%	42%
Centre	38%	29%
Right	34%	29%
<i>Place of birth</i>		
Born in Canada	83%	81%
Born in another country	17%	19%
<i>Canadian identity</i>		
Proud to be Canadian	96%	93%
Not proud to be Canadian	4%	7%
<i>Quebec sovereignty (QC only)</i>		
Sovereignist	34%	59%
No sovereignist	66%	41%
<i>Vote choice</i>		
Liberal Party	29%	30%
Conservative Party	25%	15%
New Democratic Party	14%	17%
Bloc Québécois	3%	3%
Green Party	8%	19%
Undecided	12%	18%
<i>Environmental values (mean)</i>		
Biocentric values (0-10)	4.60	5.37
Worriedness scale (0-10)	7.70	8.48
<i>Trust (mean)</i>		
Trust in ENGOs (0-10)	6.19	7.23
Trust in industry (0-10)	3.59	3.29
Total number of respondents	2,566	378

Caption:

Table 1 presents the socio-demographic and other characteristics of ENGO sympathizers in Canada. The data are arranged by column showing, for instance, the proportion of sympathizers who fall in the True Green segment (not the proportion of True Greens who are sympathizers). As a result, variables add up to 100% in the columns as opposed to across the rows.

In terms of socio-demographic characteristics, a larger proportion of sympathizers are women (56%) as opposed to men (44%). This gender gap tends to be consistently found in EcoAnalytics and the research of others, and suggests more attention and care should be given to messages that appeal to the values and concerns of women. Nearly half of all sympathizers are older than 55 years of age, while 22% are between the age of 18 and 34 and 30% fall between 35 and 54 years old. Targeting Canadians in later stages in life might thus be a fruitful strategy for recruitment.

A larger share of sympathizers have English (76%) as opposed to French (15%) and “Other” (9%) as their mother tongue. While this language gap is explained by the predominance of Anglophones in the sample, the fact remains that the proportion of “English as mother tongue” is *greater* among sympathizers (76%) than it is for non-sympathizers (70%), while the proportion of respondents with “French as mother tongue” is *smaller* among sympathizers (15%) relative to non-sympathizers (20%). The resulting English-French gap is therefore larger among sympathizers (there are about 62% more Anglophones than Francophone speakers in this group) than it is for non-sympathizers (where we find about 51% more English than French). All of this points to the importance of communicating in both official languages, and to the greater potential of recruiting from the French-speaking segment of the Canadian population.

While sympathizers are more likely to live in urban settings (59%), a large amount (about 41%) live in places that Statistics Canada defines as rural. Surprisingly, sympathizers are also evenly split between those that have (49%) and have not (51%) obtained a university degree. ENGO sympathizers are, however, generally more educated than non-sympathizers, with nearly half of all sympathizers having a university degree, compared to roughly a third among non-sympathizers. A plurality of ENGO sympathizers (30%) live in households earning between \$40,000 to \$80,000, potentially reflecting the proportion of older Canadians living on fixed income who are more likely to be a member or follower of an environmental organization. Interestingly, however, income does not help discriminate between sympathizers and non-sympathizers. In both cases, around 24% earn under \$40,000 a year, 33% earn between \$40,000 and \$80,000, 25% earn between \$80,000 and \$120,000, and 17% earn more than \$120,000 every year.

Table 1 also summarizes the role of politics. As shown, a plurality of sympathizers is left-leaning (42%), though 29% of people in this group position themselves in the centre, while 29% position themselves on the right. Non-sympathizers, on the other hand, are more likely to be in the centre (38%) than on the left (29%) or on the right (33%) of the political spectrum. This may call for more strategic thinking around whether and how to craft messages that appeal to those with a more conservative ideology (framing around, for instance, efficiency, security, conservation and the

sanctity of nature). Interestingly, this greater support for left-wing ideology among sympathizers does not directly translate into votes for mainstream parties. For instance, support for the Liberals is similar for both groups (29%), while support for the NDP is also close, with 17% of sympathizers reporting they would vote for this party over 14% of non-sympathizers. Instead, being on the left translates into less support for the Conservatives (15% rather than 25%) and much more support for the Green party (19% rather than 8%). Sympathizers are also more likely to be undecided, with 18% rather than 12% for the non-sympathizers. This latter point is consistent with other research, and suggests that many environmentalists in Canada remain politically unaffiliated and may represent a potential resource for vote-seeking politicians.

In Quebec, attitudes toward sovereignty are similarly associated with a respondent’s ENGO sympathizer status. Almost 60% of Quebec sympathizers would vote ‘yes’ if a referendum on Quebec sovereignty was held that day. Comparatively, only a third of non-sympathizers would vote yes. When speaking to their base, groups in Quebec may thus want to frame messages that appeal to nationalist values, a strategy that appears to have been effective in the context of the “*Coulez pas chez nous*” anti-Energy East campaign (see Analytical Briefing on Pipeline Politics in Canada). Conversely, national pride in Canada appears unrelated to the likelihood of being an ENGO sympathizer, though some commercial enterprises (e.g. Molson) do use Canadian nature symbols (e.g. forests, lakes, rivers) to appeal to popular notions of Canadian identity in an effort to sell their products.

Information-seeking behaviour of ENGO sympathizers

Where do ENGO sympathizers go for information about the environment? And do these information-seeking behaviours differ across sympathizer and non-sympathizer groups? The 2017 Panoramic Survey asked respondents to indicate the different types of media they consult to keep abreast of news on environmental issues. The results for sympathizers can be seen in Table 2.

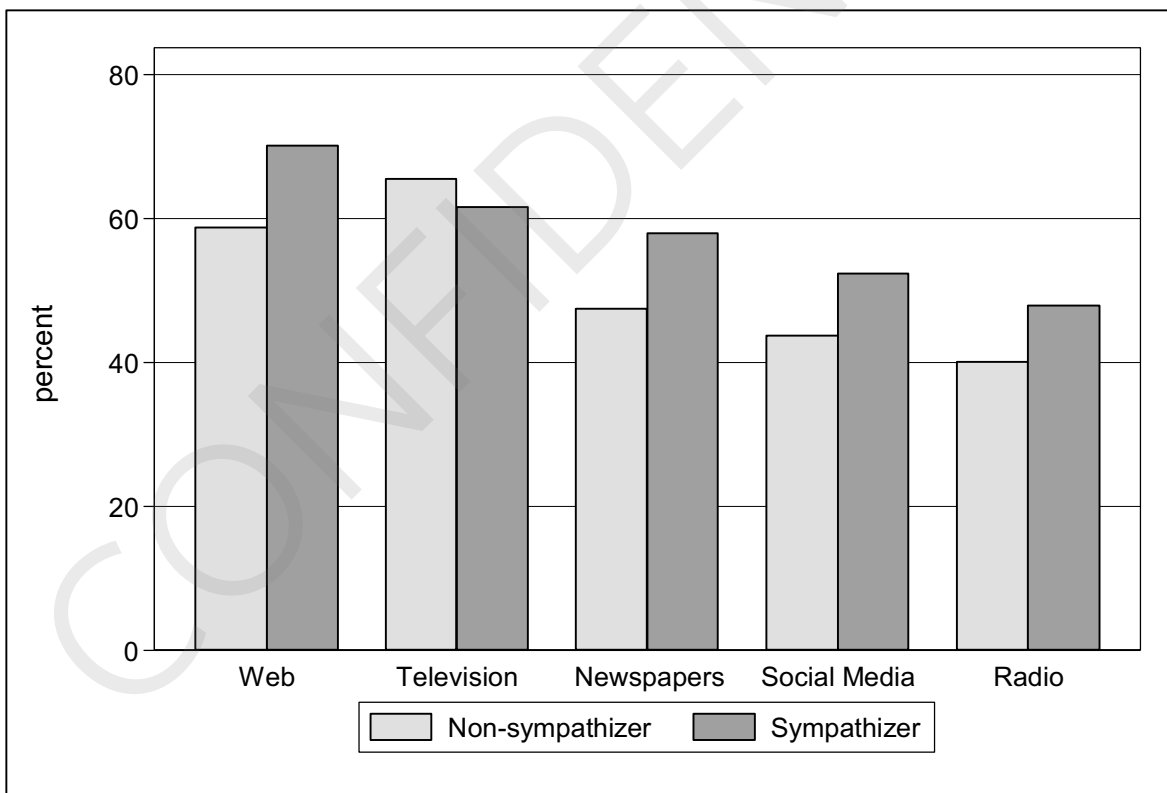
Table 2: Information Sources used by Sympathizers

	Newspapers	Radio	Television	Social Media	Web Sources
Consult	58%	48%	62%	52%	70%
Don’t consult	42%	52%	38%	48%	30%

More than 70% of sympathizers report consulting web sources for environmental news. In fact, web sources are the most commonly cited form of information used by ENGO sympathizers. While more than half consult social media, traditional media, especially television and newspapers, remain important sources for sympathizer groups, potentially reflecting the age distribution of sympathizers identified in Table 1. Radio, on the other hand is the least consulted source of news for sympathizers, as more than half report not consulting this media.

It is interesting to note that information-seeking approaches of sympathizers and non-sympathizers differ considerably. As shown in Figure 3, around 65% of non-sympathizers report consulting the television to get their news about the environment, their main source of information. However, less than 60% use web sources as a form of media. Social media is also much less likely to be consulted by non-sympathizers relative to sympathizers.

Figure 3: Media Consumption for Sympathizers vs. Non-Sympathizers



Also of note is that sympathizers are more likely than non-sympathizers to consult more digital media like web sources or social media than print and broadcast media such as newspapers, television and radio. To be precise, 54% of sympathizers consume more online media compared to

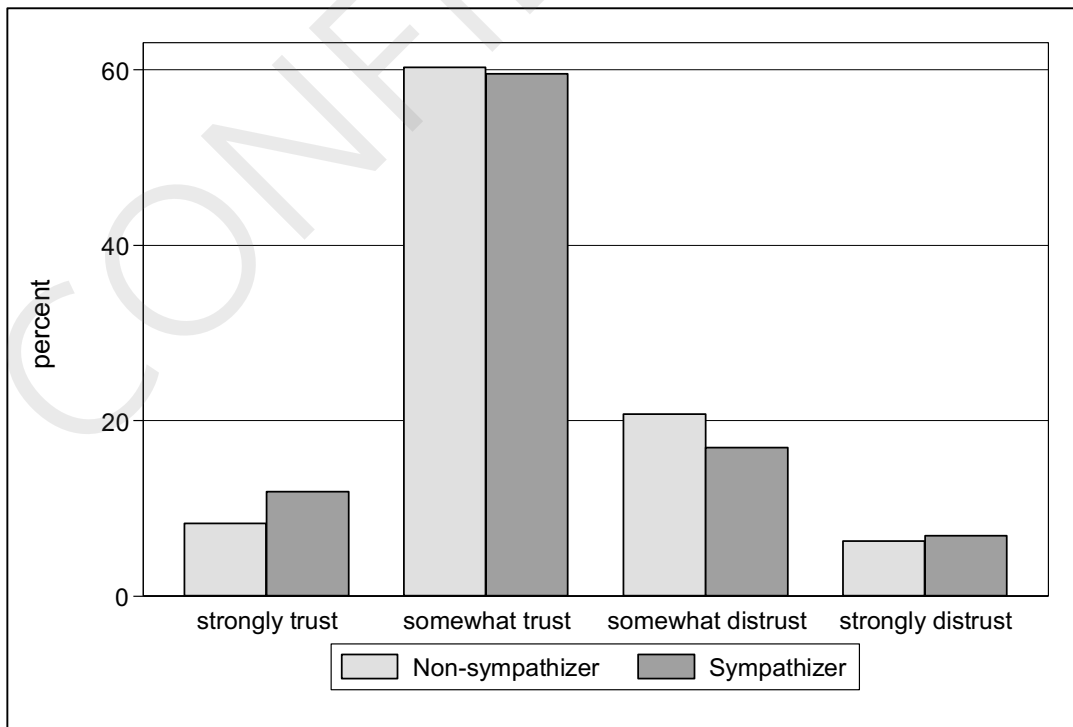
50% of non-sympathizers. This could also be correlated with age. Indeed, among sympathizers, the median age for those consulting more online media than mainstream media is 46.5 years old, while the median age for those preferring mainstream media is 59 years old.

Interestingly, sympathizers also consult a wider variety of media. Out of the five choices offered to them (and the “other” category), sympathizers consult on average 3.06 different sources of media information, compared to 2.6 for non-sympathizers.ⁱⁱ Sympathizers keep informed through a broader range of sources—something NGO communicators should remember.

Trust in the media

In the context of debate around the extent to which we are living in a post-fact/post-truth era, in which citizens are increasingly skeptical of the news they consume, we posed a question on the public’s level of trust in the media as a source of information about the environment. This immediately followed the question about which kinds of media respondents use to keep abreast of environmental issues. As shown in Figure 4, Canadians generally show a moderate level of trust in the media. However, we find no statistically significant difference between sympathizers and non-sympathizers in terms of this level of trust in media for environmental news.

Figure 4: Trust in News by Sympathizer vs. Non-Sympathizer



What leads one to become an ENGO sympathizer?

How do we explain why some people in Canada become ENGO sympathizers? What factors are associated with ENGO support? To answer these questions, we ran a simple model that seeks to identify the characteristics of our respondents that are associated with the likelihood of reporting they are a member, follower, donor, or volunteer with an ENGO. While Table 1 helps paint a picture of what sympathizers look like, regression models are better suited to examine associations between ENGO sympathizer status and individual characteristics, *while controlling for other variables in the model*. This helps rule out confounding and spurious relationships that may appear to exist when looking at descriptive cross-tabs (e.g. Table 1) alone, and allows for more valid inferences concerning what factors are really associated with the probability of being an ENGO sympathizer in Canada.

Table 3, on the next page, summarizes results from our model that examines the probability of being an ENGO sympathizer conditional on one's gender, region of residence, age, level of education, political ideology, level of environmental socialization, and controlling for whether a respondent was interviewed over the telephone or online.

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Table 3: Logit Model of ENGO Sympathizers

Variable name	Coefficient	Standard error
Socialization	1.58 ^{***}	(0.13)
<i>Ideology</i>		
Right (ref.)	1.00	(.)
Left	1.68 ^{***}	(0.25)
Centre	0.91	(0.14)
<i>Gender</i>		
Women (ref.)	1.00	(.)
Men	0.86	(0.10)
<i>Age</i>		
18 to 34 (ref.)	1.00	(.)
35 to 54	1.28	(0.22)
55 to 74	1.93 ^{***}	(0.33)
75 or older	2.11 ^{**}	(0.60)
<i>Education</i>		
No university degree (ref.)	1.00	(.)
University degree	1.45 ^{**}	(0.18)
<i>Region</i>		
British Columbia (ref.)		
Alberta	0.60 [*]	(0.12)
Prairies	0.81	(0.16)
Ontario	0.75	(0.14)
Quebec	0.57 ^{**}	(0.12)
Atlantic prov.	0.70	(0.14)
<i>Survey mode</i>		
Web (ref.)	1.00	(.)
Telephone	1.10	(0.14)
Constant	0.06 ^{***}	(0.01)
<i>N</i>	2392	
pseudo <i>R</i> ²	0.048	

Exponentiated coefficients; Standard errors in parentheses

Stars indicate significant relationships at: ^{*} $p < 0.05$, ^{**} $p < 0.01$, ^{***} $p < 0.001$

As shown in Table 3, a number of factors help predict the probability of being (as opposed to not being) an ENGO sympathizer.ⁱⁱⁱ Note that the coefficients are expressed as exponentiated coefficients (or “odds ratios”), which estimate the relative effect of a one-unit change in a predictor variable on the predicted probability of, in this case, being an ENGO sympathizer. An odds ratio of 1 indicates no change in the predicted odds of being an ENGO sympathizer. Coefficients below one indicate a negative effect (i.e. less likely to be a sympathizer), and those above 1 indicate a positive effect (i.e. more likely to be a sympathizer). Finally, a level of confidence is attached to coefficients, with stars highlighting that the estimated effect is statistically significant at a 0.05, 0.01 or 0.001 level of confidence. These stars indicate that the estimated effect of a predictor variable is real and not due to random error; absent a star, the model cannot rule out the possibility that the predictor has no real effect. For instance, a coefficient that is significant at the 0.05 level (one star) indicates that there is a less than 5% probability that the result obtained is due to random sampling error; we can thus be 95% sure that the estimated relationship between the two variables exists outside our sample, in the real world. Should we resample from the same population an infinite number of times, the effect would be systematic (always positive or negative) at least 19 times out of 20, hence the 95% level of confidence.

Turning to the substantive interpretation of results, we see that the coefficient for the socialization variable is large and very significant. As outlined in the next section (A closer look at the role of socialization), this variable is a “composite measure” (i.e. an additive index) computed by adding the scores obtained for each respondent on three items in the Panoramic survey that measure the extent to which a respondent was taught about environmental issues at a young age. As can be seen in Table 3, a coefficient of 1.58 indicates that, with each one-unit increase on the socialization scale (range from 0 to 3), the probability of being an ENGO sympathizer increases by over 50%. The fact that this estimate is very significant (at the 0.001 level) indicates that we can be very confident that the positive association between being an ENGO sympathizer and having been socialized into environmental issues at a young age is real and not due to chance.

Next, political ideology (originally measured on a 0-10 scale) is re-coded here into three categories (0 through 4 as left, 5 as centre, and 6 to 10 as right). We define right ideology as the reference category, i.e. the baseline category against which we can interpret the coefficients for the other two categories, left and centre. As shown, left-leaning individuals are about 68% more likely to be sympathizers than are right-leaning Canadians. The difference between those in the political centre, and those on the right, however, is smaller and not statistically significant.

When controlling for the other factors in our model, and in contrast to what might be interpreted from the simple bivariate^{iv} relationships shown in Table 1, the difference between men and women in terms of the probability of being an ENGO member is not statistically significant.^v Unlike gender, having a university degree, relative to not, remains significant after controlling for the other variables in the model, and is associated with a 45% increase in the likelihood of being an ENGO sympathizer. Age is also statistically significant, as the difference between the 55 to 74 and 75 plus age categories are significantly different from the 18 to 34 (reference) category. To be precise, being between 55 to 74 years old, as opposed to falling in the 18 to 34 year old reference category, increases the probability of being an ENGO by over 90%, while those in the 75 plus age category are more than twice as likely than those between the ages of 18 and 34 to be a member, follower, donor or volunteer with an ENGO.

Finally, looking at the region variable (where residence in British Columbia is defined as the reference category), we see that living in Alberta and Quebec – as opposed to British Columbia – decreases the relative probability of being an ENGO sympathizer by about 40%. The probability of being an ENGO sympathizer between those living in British Columbia as opposed to those residing in the other provinces is not statistically different, however. We also included a control for survey mode, and the model suggests there is no difference in the likelihood of reporting being an ENGO sympathizer across the web and telephone samples.

A closer look at the role of socialization

We now dig deeper into the role of the socialization variable. This variable is actually an additive index computed by adding respondents' scores obtained on the first three of the following four questions asked in the 2017 Panoramic survey:

- *Growing up, did your parents recycle?*
 - If yes, “How often did your parents recycle? Occasionally, Often, or Always?”
- *Growing up, did your parents teach you to be careful with the environment, asking you to do such things as recycle, conserve electricity, or not waste water?*
 - If yes, “How often did your parents teach you to be careful with the environment? Occasionally, Often, or Always?”
- *Growing up, did you do environmental activities at school, such as learning about environmental issues, recycling or conservation?*
 - If yes, “How often did you do environmental activities at school? Occasionally, Often, or Always?”

- *Growing up, did you teach your parents to be careful with the environment, asking them to do such things as recycle, conserve electricity, or not waste water?*
 - *If yes, “How often did you teach your parents to be careful with the environment? Occasionally, Often, or Always?”*

Table 4: Environmental Socialization among Sympathizers and Non-Sympathizers

	Parents Recycle		Parents Taught You		School Taught You		You Taught Parents	
	Non-symp.	Symp.	Non-symp.	Sym.	Non-symp.	Sympa.	Non-symp.	Symp.
No	44%	36%	22%	13%	42%	34%	49%	40%
Yes, Occa.	19%	19%	23%	20%	34%	29%	24%	21%
Yes, often	16%	18%	27%	30%	16%	21%	15%	21%
Yes, always	21%	28%	28%	38%	9%	15%	11%	19%

The frequency distribution for each of these questions is presented in Table 4. For each question, it is interesting to note that sympathizers are systematically more likely to report “always” responses. For instance, ENGO sympathizers are about 7% more likely than non-sympathizers to report that their parents “always” recycled, 10% more likely to report that their parents taught them to be careful with the environment, 6% more likely to report having learned about the environment in school, and 8% more likely to report having taught their parents about the environment (a form of “reverse socialization”). Similarly, sympathizers are also much less likely to choose the ‘no’ category. For instance, 35% of sympathizers report that their parents did not recycle, compared to 44% of non-sympathizers. Roughly the same proportions never did activities at school related to the environment. Only 12% of sympathizers report that their parents never taught them to be careful about the environment, compared to 21% of non-sympathizers. Likewise, 40% of sympathizers never taught their parents to be careful with the environment, compared to almost half of non-sympathizers.

We created an additive index out of the first three socialization questions, omitting the question measuring reverse socialization. The values assigned to each potential answer are as follows: No=0; Yes, occasionally=0.33; Yes, often = 0.66; and, Yes, always=1. The socialization variable is then computed as the sum of scores obtained on “Parents recycle” + “Parents taught you” + “School taught you,” producing a range from a low of 0 (reporting ‘no’ to all three questions) to 3 (reporting ‘yes, always’). Given the strength of the relationship between environmental socialization and the probability of being an ENGO sympathizer summarized in Table 3, we decided to provide a visual representation to further unpack its effect.

Figure 5: Predicted Probability of being an ENGO sympathizer by degree of socialization

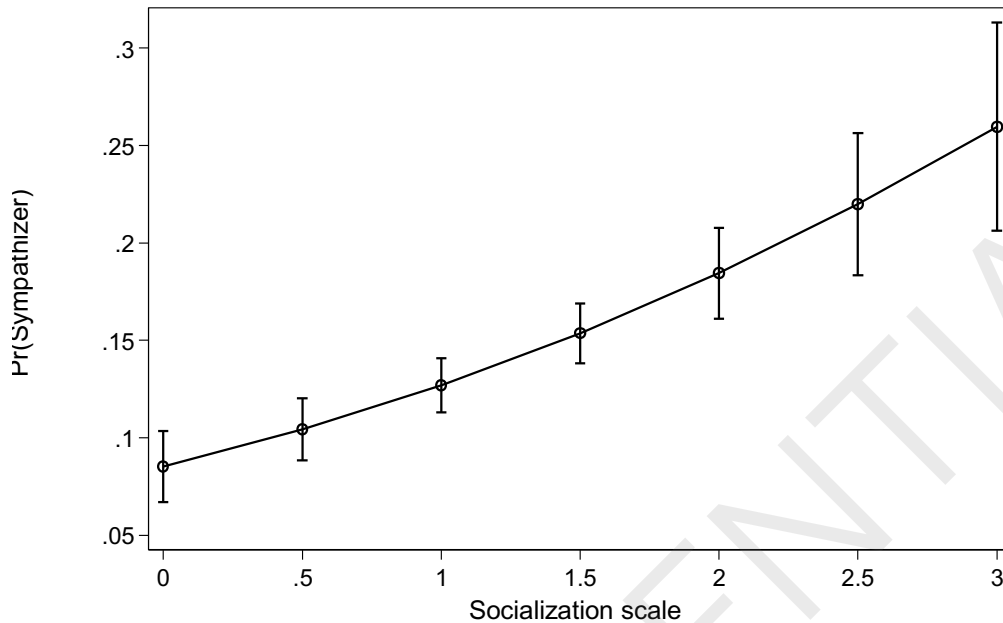
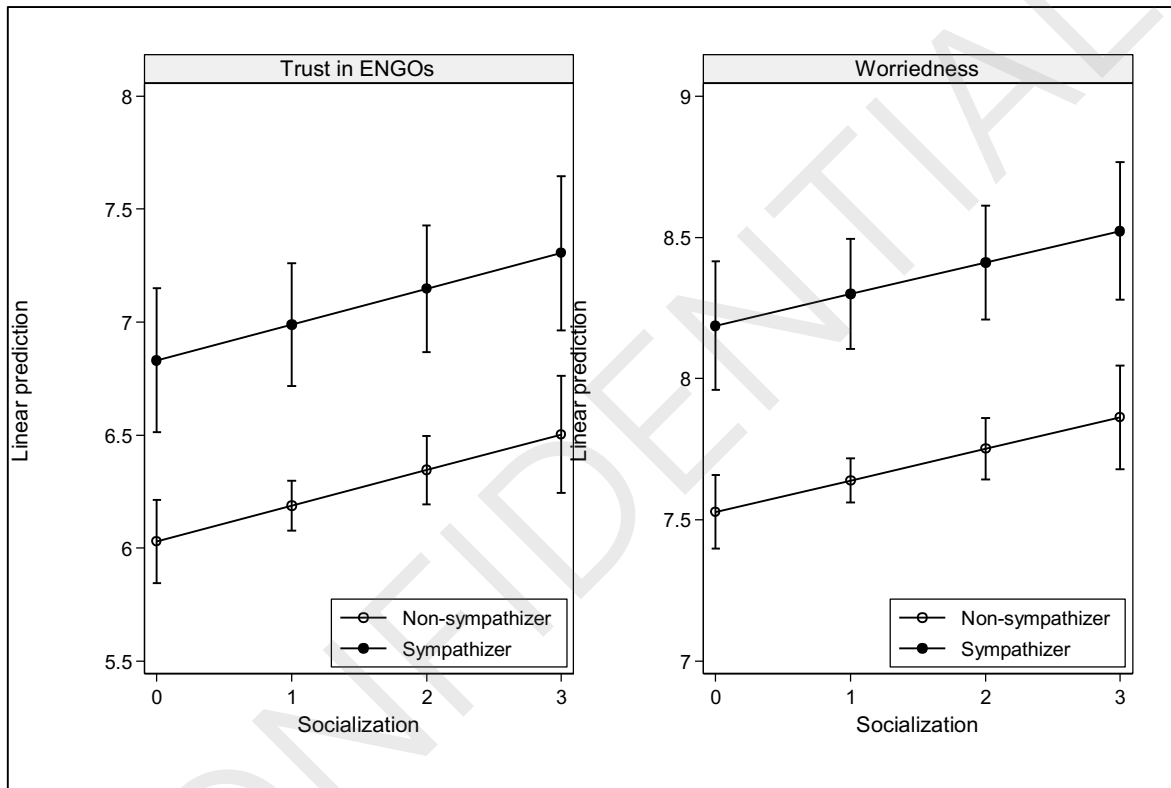


Figure 5 illustrates the predicted probability, with 95% confidence intervals, of being an ENGO sympathizer, for each 0.5 unit increase in environmental socialization. This procedure is run after fitting the original regression model, and thus illustrates the estimated effect while controlling for all other factors in the model. As can be seen, someone with a score of 0 on our socialization scale has a predicted probability of about 0.09, or less than a 10% chance of becoming an ENGO sympathizer. For someone who was completely socialized by their parents and in school, that probability increases to about 25% (i.e. we estimate that 1 in 4 people who are completely socialized belong to an ENGO). These results suggest that ENGOs might want to focus attention on developing communication strategies designed to persuade parents and teachers to spend more time teaching children about environmental issues and environmentally-friendly behaviours.

Using a similar procedure as above, we further examine the effect of socialization on ENGO trust and on a respondent's mean level of worry on our battery of 11 items.^{vi} From the descriptive statistics in Table 1, we already know that sympathizers (mean=7.23) are more likely than non-sympathizers (mean=6.19) to trust environmental groups when it comes to matters pertaining to the environment. It is also true that sympathizers (mean=8.5) are on average more worried about the 11 environmental issues contained in the 2017 Panoramic worry battery as compared to non-sympathizers (mean=7.7). To test whether or not teaching children about the environment is

related to trust and worry, we ran two regression models predicting A) trust in ENGOs; and, B) mean level of worry, using the socialization scale and controlling for such things as environmental group sympathizer and other socio-demographics. The effect of socialization on both trust in ENGOs and general worry about the environment are presented in Figure 6.

Figure 6: Predicted probability of trust in ENGOs and Worry over environmental issues conditional upon degree of environmental socialization



The results are telling. Though the estimated effects are modest, both trust in environmental groups and general worry about environmental issues are indeed related to one’s level of socialization. The more respondents report being taught about the environment when growing up, the more they trust ENGOs. Likewise, more socialized individuals are also more worried about environmental issues than those that were not taught about the environment in their youth. To be sure, it may be that some unmeasured characteristic predisposes some to worry/trust more while also making them more likely to report/recall environmental behaviours in the context of a survey. While we cannot rule out the possibility of such a bias in these recall measures, the evidence suggests there is some relationship. In fact, even though sympathizers report more trust and more worry, Figure 6 shows the effect of socialization is not interactive: it plays out the same way for

both sympathizers and non-sympathizers. In other words, socialization appears to be one pathway to increasing trust in ENGOs and for raising environmental concern for every Canadian.

In conclusion, this analytical briefing note points to a number of insights that might inform partner strategies as they seek to both reach their existing audience (ENGO sympathizers) and to expand their base. While most ENGO sympathizers fall into the “True Green” segment identified in the 2017 Panoramic report, we identify considerable potential to engage the 78% of Canadians in this segment who are currently *not* a member, follower, donor or volunteer with an ENGO. We also find that there is considerable potential for growing membership among women, older Canadians, and Francophones across the country. In terms of speaking to these audiences, we find that web sources and social media are particularly good outlets. While more research is required to dig deeper and test specific messages, evidence so far suggests that framing messages around left-of-centre values (e.g. justice and equality) is likely to be a good strategy, though imperfect for reaching all potential target audiences. Given the differentiated ideological makeup of Potential Greens, for instance, targeting this segment with left-wing messages only is unlikely to broaden the base, while framing around nationalist values in Quebec may help mobilize the majority of ENGO sympathizers who happen to be sovereigntists. Finally, evidence from this brief suggests that the transmission of good environmentally conscious habits from generation to generation appears to be a good way of strengthening the environmental movement in Canada. Effective communication strategies might therefore focus on persuading parents to teach their children environmentally-friendly behaviours, and assist teachers in developing school activities that teach children about environmental issues.

ⁱ We exclude Eco-Indifferent here given the small number in our sample (n=50).

ⁱⁱ Conducting a difference in means test reveals that this difference is statistically significant.

ⁱⁱⁱ While the model helps identify the factors leading one to be more and less likely to be an ENGO sympathizer, the model overall is able to explain a relatively small amount of variation in the probability of reporting that one is a member, follower, donor or volunteer with an ENGO, suggesting other factors unaccounted for here are at play.

^{iv} A bivariate analysis is the simplest form of quantitative data analysis. It examines the empirical relationship between 2 variables (usually expressed as X and Y). Bivariate analysis is usually supplemented by multivariate analysis (more than two variables) in order to rule out potentially spurious relationships that disappear once other variables are accounted for. To use a common example, bivariate analysis may find a correlation between the number of fire fighters on site (X) and the total damage caused by a fire (Y). But this relationship is spurious, and disappears once we control for a third variable, the size of the fire (Z), which explains both the number of fire fighters on site (X), as well as the total damage caused by the fire (Y).

^v This finding suggests that the effect of gender on the likelihood of being an ENGO sympathizer is not fully independent and interacts with another variable (potentially age or income), a possibility to be explored in future.

^{vi} For details on the Worry battery of questions in our survey, see “Shades of Green: Analysis of Canadian attitudes on a range of environmental issues,” based on EcoAnalytics Panoramic Survey, May 2017.