2 IN 3 FAMILIAR WITH THE ISSUES OF ORPHANED OR ABANDONED WELLS

CONCERN ABOUT THE WELLS IS MIXED CONCERN INCREASES AFTER BEING TOLD ABOUT RISKS TO WATER, AIR AND SOIL QUALITY



DETAILED RESULTS

ORPHANED & ABANDONED OIL/GAS WELLS A SURVEY OF RESIDENTS LIVING NEAR WELLS IN ALBERTA, SASKATCHEWAN AND BRITISH COLUMBIA

CONDUCTED FOR CLEAN ECONOMY FUND MARCH 2023

RESEARCH AND ANALYSIS FROM CANADA'S LEADING PUBLIC AFFAIRS AND MARKET RESEARCH EXPERTS

METHODOLOGY

The survey was conducted by phone with 1,000 residents aged 18 and over, living in BC, AB and SK close to orphan, abandoned or inactive oil/gas wells, from February 28 to March 15, 2023, with a combination of targeted sampling and random digit dialling.

The margin of error for this survey is +/- 3.1%, 19 times out of 20.

The data were weighted according to census data to ensure that the sample matched BC, AB and SK's population according to age, gender, and region. Totals may not add up to 100 due to rounding.

EXECUTIVE SUMMARY



EXECUTIVE SUMMARY

This survey investigates public awareness and concerns about orphaned and abandoned oil and gas wells among residents of three Canadian provinces who live close to these wells. Key findings show that a majority of residents are at least somewhat familiar with the issue, with only 17% being unfamiliar. Familiarity is relatively consistent across provinces, although younger residents and women tend to be less familiar with the topic.

Approximately half of the respondents are aware of orphaned or abandoned wells near their homes, with slightly higher awareness in Saskatchewan and British Columbia than in Alberta. After providing more information about the wells, 20% of previously unaware respondents recalled hearing, seeing, or reading about them. Overall, 41% of residents express some level of concern about these wells being close to their communities, with younger residents and those less familiar with the issue tending to be less concerned.

The greatest concerns among respondents are related to the potential impacts of these wells on water quality, soil pollution, and nature, rather than climate change. The study finds that learning about the impact of the wells on water quality or soil is likely to have the greatest impact on changing their level of concern. Most respondents hold the oil and gas industry responsible for the costs of decommissioning wells, but when it comes to identifying the cause of the abandoned wells, opinions are more divided between the sector, the federal government, and the provincial government.

The majority of residents believe that none of the key players (provincial government, federal government, or oil and gas sector) are doing enough to minimize the risks associated with these wells. The federal government is perceived as the least proactive, with 65% of respondents feeling that they are not doing enough, followed by the oil and gas sector (60%) and the provincial government (54%).

ABACUS



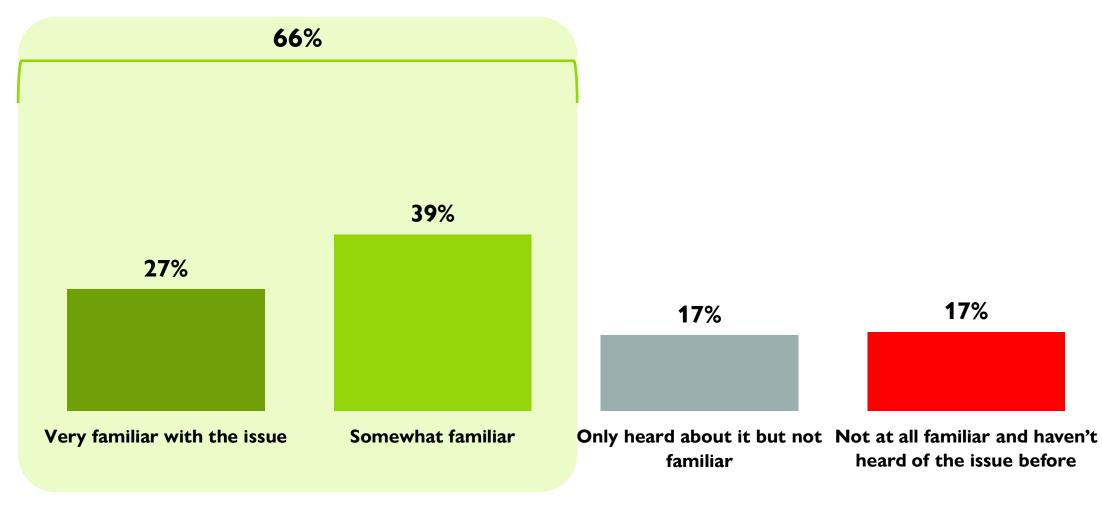


KEY FINDINGS

- Most residents in the survey area say they are at least somewhat familiar with the issue of orphan and abandoned oil and gas wells. 17% say they haven't heard of the issue before being asked about it in the survey.
- Familiarity is fairly consistent across the three provinces. Younger residents are less familiar with the issue than older ones. Men are more likely to say they are familiar with the issue than women.
- About half of residents report being aware of orphaned or abandoned wells being located near their home. Those surveyed in SK and BC are slightly more likely to report being aware than those in Alberta.
- When those who are unaware of wells being located near their home are prompted with more details, 1 in 5 say recall hearing, seeing, or reading anything about orphaned or abandoned wells.
- When all residents are asked their level concern about these orphaned or abandoned wells being close to their community, 17% report being very concerned and another 24% say they are somewhat concerned. 21% are a little concerned while 39% say they aren't concerned at all.
- Younger residents, those in Saskatchewan, those less familiar with the issue, and those who support the UCP in Alberta are less concerned than other respondents.



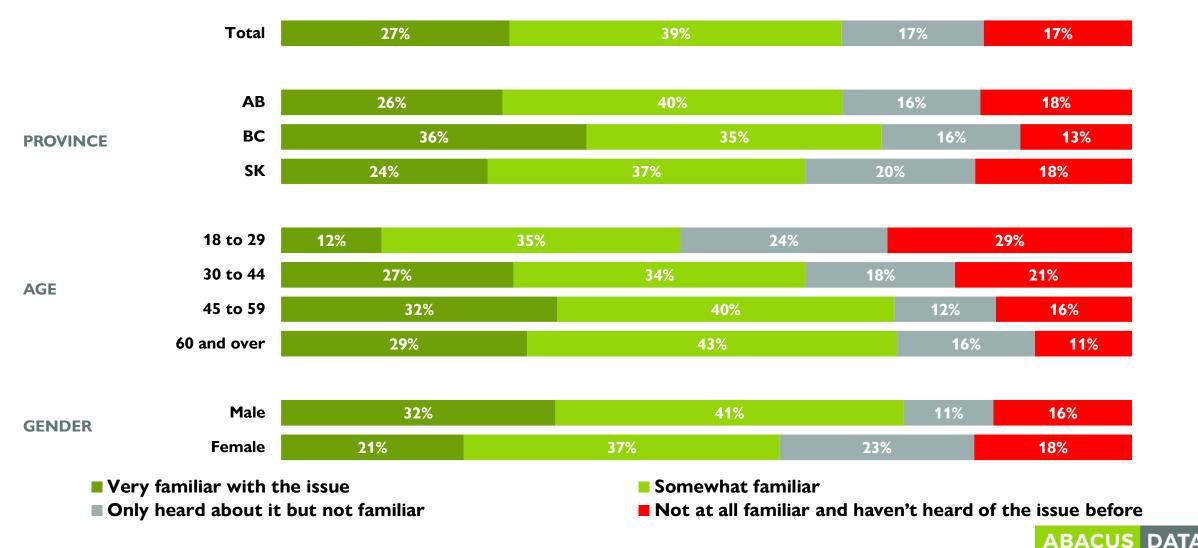
FAMILIARITY WITH ABANDONED OIL/GAS WELLS?





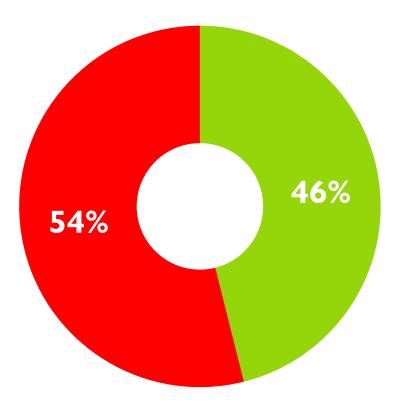
How familiar would you say you are with the issue of orphan and abandoned oil and gas wells in Canada? Are you...

FAMILIARITY WITH ABANDONED OIL/GAS WELLS?



How familiar would you say you are with the issue of orphan and abandoned oil and gas wells in Canada? Are you...

AWARE OF ABANDONED OIL/GAS WELLS NEAR YOUR HOME?

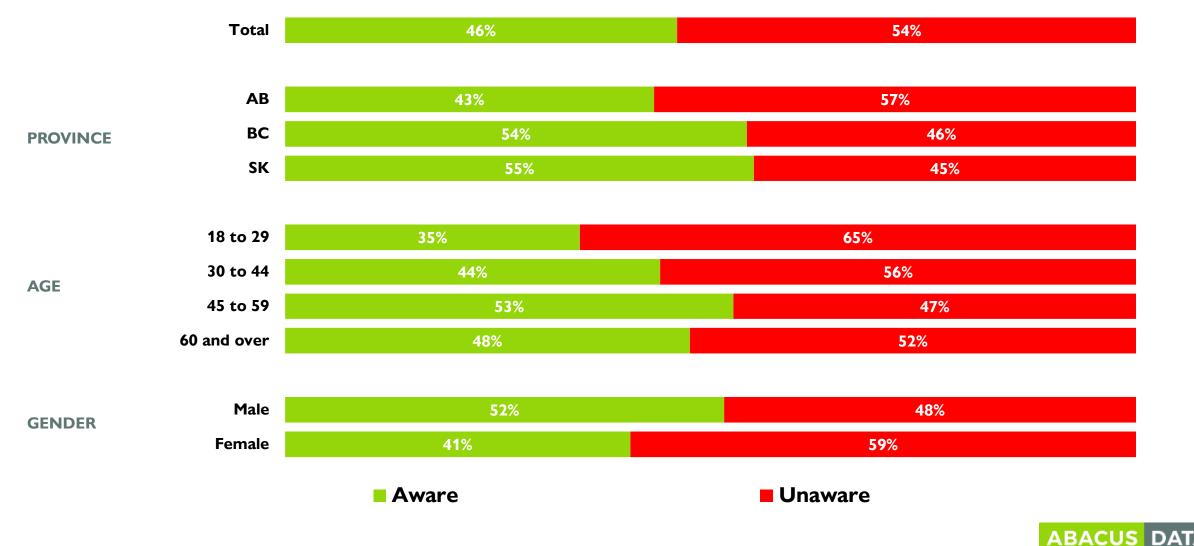






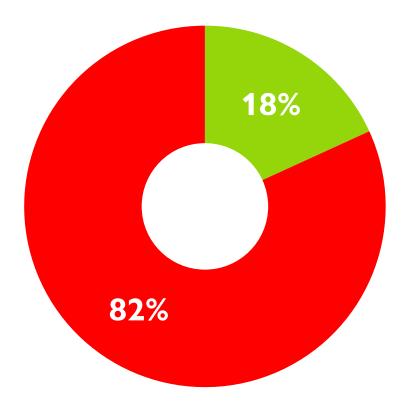
Are you aware of orphan or abandoned oil and gas wells near to your home?

AWARE OF ABANDONED OIL/GAS WELLS NEAR YOUR HOME?



Are you aware of orphan or abandoned oil and gas wells near to your home?

READING ANYTHING ABOUT ABANDONED OIL/GAS WELLS?



There are currently about 19,000 oil and gas wells in Canada that are considered orphan or abandoned. These are wells that are no longer in use but that have not yet been reclaimed or remediated. In most cases, they pose environmental risks, including by emitting methane into the air.



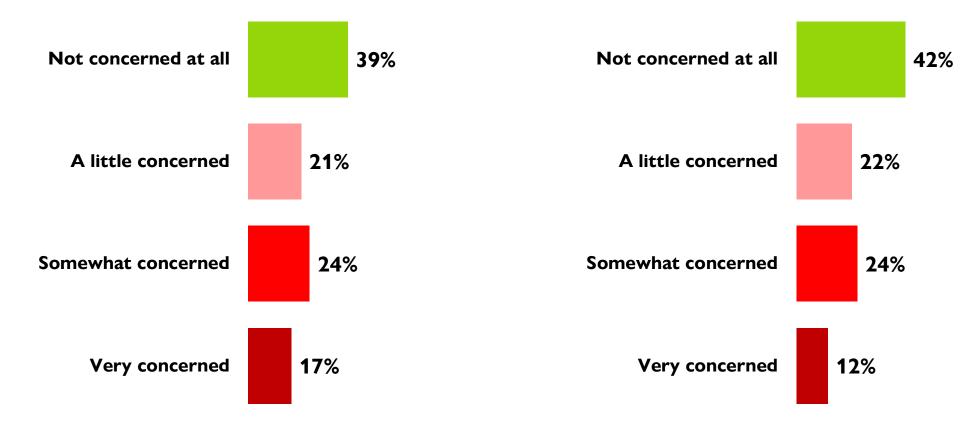


[if unaware] Based on this information, do you recall hearing, seeing, or reading anything about orphan or abandoned oil and gas wells now?

CONCERNED ABOUT...

Abandoned oil/gas wells close to your community

200,000 inactive oil/gas wells

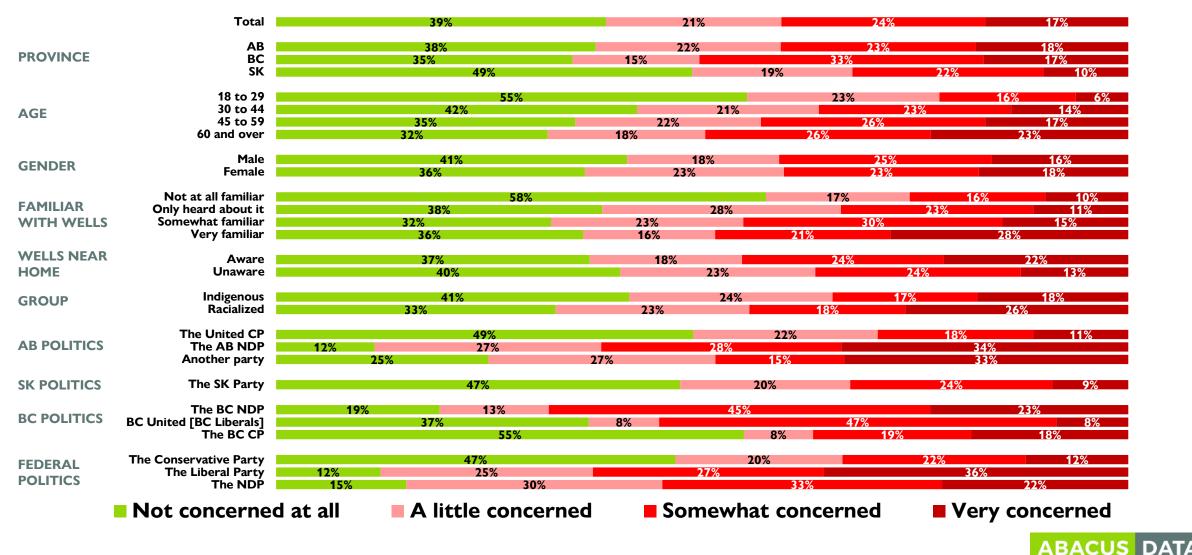


To what extent are you concerned or not concerned about the presence of these orphan and abandoned oil and gas wells? Are you... I In addition to these orphan and abandoned oil and gas wells, there are approximately 200,000 inactive oil and gas wells, which are wells that are not currently being used to produce oil or gas. How concerned are you about the presence of inactive oil and gas wells?



CONCERNED ABOUT...

ABANDONED OIL/GAS WELLS CLOSE TO YOUR COMMUNITY



To what extent are you concerned or not concerned about the presence of these orphan and abandoned oil and gas wells? Are you...

CONCERNED ABOUT...

200,000 INACTIVE OIL/GAS WELLS

	Total	42%	22%		24%	12%
PROVINCE	AB BC SK	40% 45% 55%	23% 20%	۶ 14%	25% 20% 21%	12% 15% 10%
AGE	18 to 29 30 to 44 45 to 59 60 and over	55% 44% 40% 38%	% 21% 23% 19%	26% 25%	26% 25%	14% 4% 9% 13% 18%
GENDER	Male Female	45% 40%	20%		<u>22%</u> 25%	13% 12%
FAMILIAR WITH WELLS	Not at all familiar Only heard about it Somewhat familiar Very familiar	53% 41% 38% 44%	22% 14%	22% 33% 21%	17% 20% 30%	9% 6% 10% 21%
WELLS NEAR HOME	Aware Unaware	42% 43%	20% 23%		22% 25%	16% 9%
GROUP	Indigenous Racialized	42% 34%	21% 19%	22%	24% 2!	13% 5%
AB POLITICS	The United CP The AB NDP Another party	54% 13% 22% 33%		24% 12% 20%		7% 22% 22%
SK POLITICS	The SK Party	56	%	9%	24%	11%
BC POLITICS	The BC NDP BC United [BC Liberals] The BC CP	19% 13% 53%	40% 60%	16% 20%	28% 25% 4%	6% 16%
FEDERAL POLITICS	The Conservative Party The Liberal Party The NDP	52% 19% 14% 25%	23%	22% 33% 40%	18%	9% % 21%
1	Not concerne	d at all 🛛 🗖 A little con	cerned Somewhat	at concerned	Very c	oncerned

In addition to these orphan and abandoned oil and gas wells, there are approximately 200,000 inactive oil and gas wells, which are wells that are not currently being used to produce oil or gas. How concerned are you about the presence of inactive oil and gas wells?

ABACUS

REASON FOR BEING CONCERNED

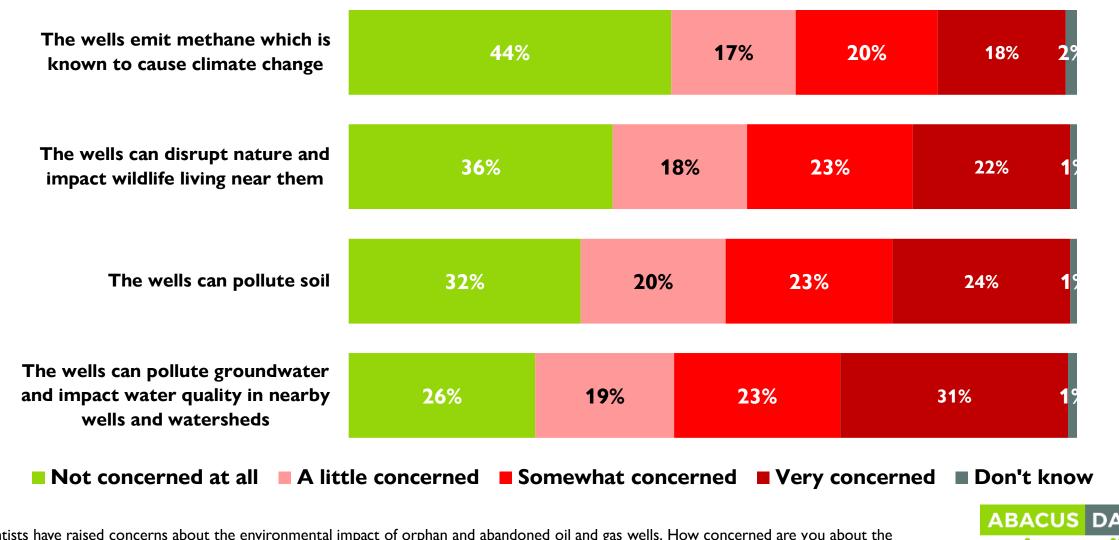
- Concerns about abandoned and inactive gas wells revolve around environmental and health risks, lack of proper maintenance and monitoring, potential contamination, and the possibility of leaks.
- Many believe that oil companies should be held responsible for cleaning up and reclaiming the land, as they initially profited from these wells.
- There are also concerns about the aesthetic impact on the landscape, the hindrance to agricultural and land use, and the burden on taxpayers who may ultimately have to fund the cleanup.
- Some respondents mention methane emissions as a specific concern, while others are worried about the impact on the environment, wildlife, and nearby communities.

ABACUS

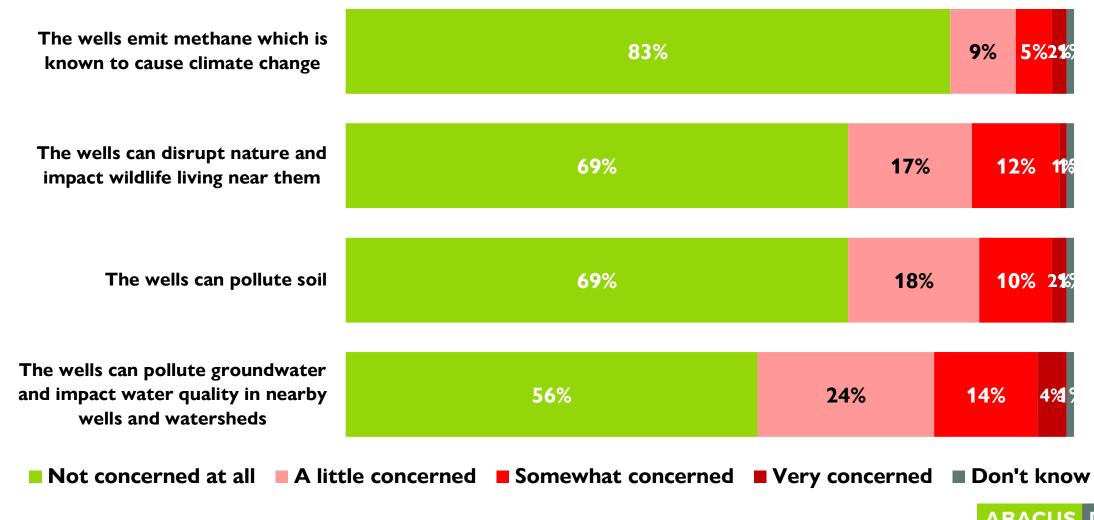
KEY FINDINGS

- When prompted with several concerns raised by scientist and asked how they feel about them, concern was more likely to be expressed when it came to the impact of wells on water quality, soil pollution, and impacts on nature than the impact on climate change.
- Among those who are either unconcerned or only a little concerned about the wells overall, learning about the impact on water quality and soil is likely to have the great impact on changing their views.
- Most residents believe the oil and gas industry are most responsible for the cost of decommissioning wells. The remaining responses are split between the federal and provincial governments and others.
- But when it comes to who believes caused the abandoned wells, 39% blame the sector most, 28% blame the federal government while 15% blame their provincial government.
- There is also widespread belief that none of the players involved: the provincial government, the federal government, or the oil and gas sector is doing enough to minimize the risk of these wells. However, more feel the federal government is not doing enough (65%) than the two other groups (provincial government 54%, the sector 60%).



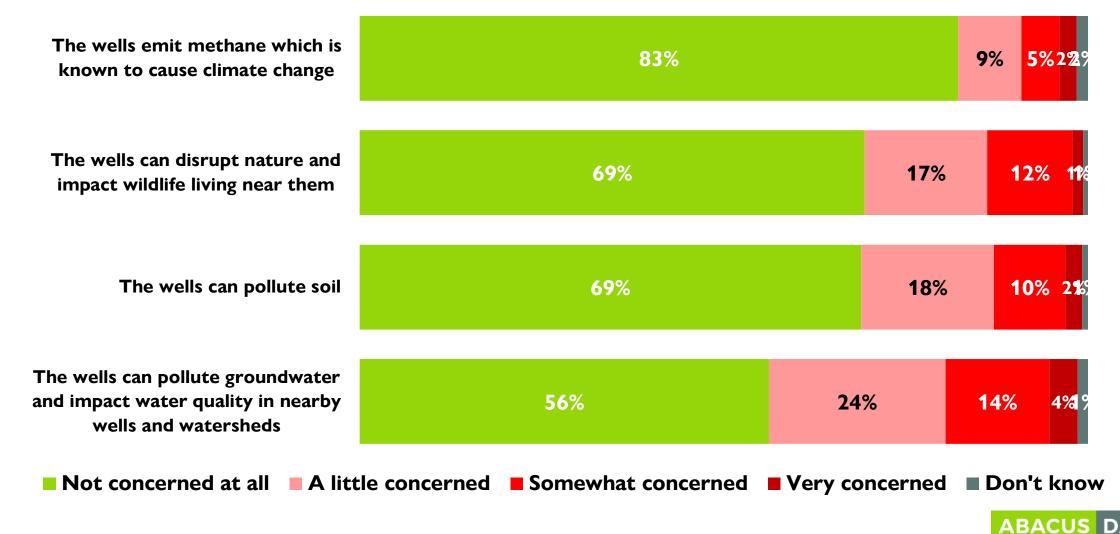


AMONG THOSE ORIGINLLY UNCONCERED ABOUT THE WELLS OVERALL





AMONG THOSE ORIGINALLY "A LITTLE" CONCERNED ABOUT THE WELLS OVERALL



THE WELLS EMIT METHANE WHICH IS KNOWN TO CAUSE CLIMATE CHANGE

	Total	44%	17	%	20% 18% 2%
PROVINCE	AB BC SK	43% 46% 51%	16%	20% 21 19%	19% 2% 15% 19% 1% 17% 11% 2%
AGE	18 to 29 30 to 44 45 to 59 60 and over	51% 55% 43% 35%	15% 16%	29% 13% 24 21%	10% 10% 19% 11% 2% % 17% 1% 25% 2%
GENDER	Male Female	49% 39%	18%	16% 22%	17% 16% 1% 19% 2%
FAMILIAR WITH WELLS	Not at all familiar Only heard about it Somewhat familiar Very familiar	46% 40% 42% 48%	21% 16%	22	15% 16% 4% 22% 15% 1% 2% 18% 1% 17% 20% 1%
WELLS NEAR HOME	Aware Unaware	48% 41%	18%	16%	19% 16% 19 6 19% 2%
GROUP	Indigenous Racialized	43% 45%	13% 13%	20% 14%	23% 19 27% 1%
AB POLITICS	The United CP The AB NDP Another party	56% 8% 8% 37% 30%	25%	19% 22%	15% 9% 1% 45% 2% 2% 21% 1% 1%
SK POLITICS	The SK Party	55%		24%	13% 9%
BC POLITICS	The BC NDP BC United [BC Liberals] The BC CP	19% 25% 49% 71%		28% 29%	28% 14% 8% 6% 10% 13%
FEDERAL POLITICS	The Conservative Party The Liberal Party The NDP	54% 7% 13% 34% 13% 9% 33%	6	20%	13% 12% 19 46% 19 44% 19
N	lot concerned a	t all 📕 A little concerned 📕 Som	ewhat conc	erned 📕 Very	concerned Don't know



THE WELLS CAN DISRUPT NATURE AND IMPACT WILDLIFE LIVING NEAR THEM

	Total	36%	18%	23%	22% 1%
PROVINCE	AB BC SK	<u>34%</u> 34% 50%	18% 24%	24% 19% 18%	23% 1% 22% 1% 17% 15%
AGE	18 to 29 30 to 44 45 to 59 60 and over	29% 42% 38% 34%	35% 16% 12% 17%	19% 27% 23%	22% 14% 21% 2% 22% 25% 1%
GENDER	Male Female	<u>41%</u> 31%	19% 18%	22% 23%	<u> </u>
FAMILIAR WITH WELLS	Not at all familiar Only heard about it Somewhat familiar Very familiar	34% 31% 33% 45%	19% 20% 20% 14	25% 24% 25% 18%	18% 3% 24% 21% 19 23% 23% 19
WELLS NEAR HOME	Aware Unaware	42% 31%	20%	21% 24%	19% 13 24% 1%
GROUP	Indigenous Racialized	32% 40%	21% 11%	20% 14%	24% 3% 32% 3%
AB POLITICS	The United CP The AB NDP Another party	41% 12% 10% 25%	25% 19% 15	4%51 %	24% 11% % 2% 40% 19
SK POLITICS	The SK Party	58%		14%	20% 8%
BC POLITICS	The BC NDP BC United [BC Liberals] The BC CP	23% 4% 44% 44%	36%	31% 29%	37% 17% 8% 8% 16% 2%
FEDERAL POLITICS	The Conservative Party The Liberal Party The NDP	42% 12% 10% 14% 10%	22% 31%	23%	22% 12% 19 42% 3%
N	lot concerned a	t all 📕 A little concerned	Somewhat cond	cerned Very co	ncerned Don't know

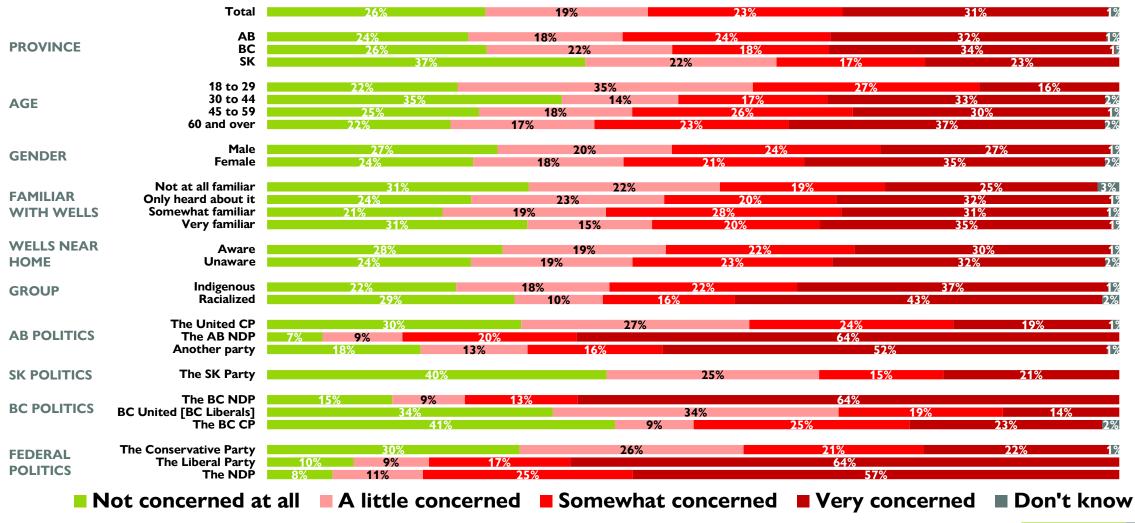


THE WELLS CAN POLLUTE SOIL

	Total	32%	20%	23%	24% 1%
PROVINCE	AB BC SK	<u> </u>	19% 21%	24% 21% 24%	26% 1% 25% 1% 6% 16% 1%
AGE	18 to 29 30 to 44 45 to 59 60 and over	33% 43% 29% 26%	33% 14% 20%	25% 25%	0% 14% 23% 19 26% 29% 2%
GENDER	Male Female	35% 29%	18% 22%	23%	20% 1% 29% 1%
FAMILIAR WITH WELLS	Not at all familiar Only heard about it Somewhat familiar Very familiar	38% 25% 28% 38%	20% 27% 20% 16%	21% 21% 28% 19%	19% 2% 26% 2% 24% 28%
WELLS NEAR HOME	Aware Unaware	35% 29%	20%	22% 23%	23% 26% 2%
GROUP	Indigenous Racialized	<u>35%</u> 36%	19% 17%	20% 13%	24% 2% 33% 1%
AB POLITICS	The United CP The AB NDP Another party	36% 11% 12% 21% 18%	25% 28% 14%		14% 19 0% 15% 2%
SK POLITICS	The SK Party	51%		23%	12% 12% 2%
BC POLITICS	The BC NDP BC United [BC Liberals] The BC CP	19% 13% 39% 50%	36%	33% 9% 21%	32% 14% 14% 18% 2%
FEDERAL POLITICS	The Conservative Party The Liberal Party The NDP	37% 9% 12% 11% 7%	25% 26% 38%	<u>20%</u> 52%	16% 19 19 43%
N	lot concerned a	t all 📕 A little concerned 🛛	Somewhat cond	cerned Very con	cerned Don't know

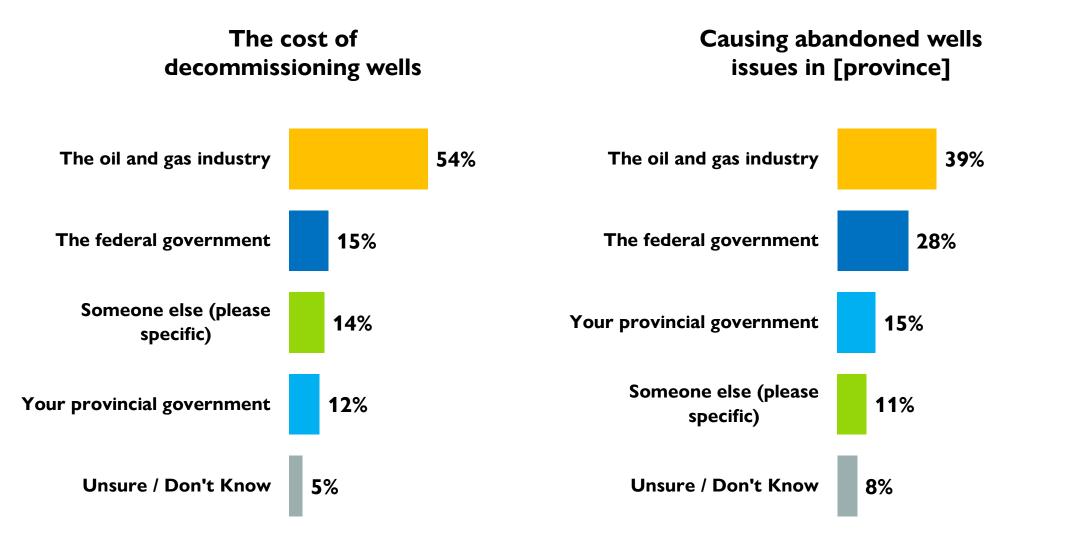
ABACU

THE WELLS CAN POLLUTE GROUNDWATER AND IMPACT WATER QUALITY IN NEARBY WELLS AND WATERSHEDS





WHICH GROUP IS MOST RESPONSIBLE FOR...



Orphan wells are wells whose owner has gone bankrupt. Which of the following groups do you think should be most responsible for the cost associated with decommissioning these wells and making them safe? I Which of these groups do you feel is MOST responsible for causing the orphan and abandoned wells issue in?

ABACUS DATA

WHICH GROUP IS MOST RESPONSIBLE FOR...

THE COST OF DECOMMISSIONING WELLS

	Total	54%		15%	14%	12%	5%
PROVINCE	AB BC SK	55% 48% 55%	12%	15% 17% 17%	14% 12%	12% 15% 10% 6	5% % 5%
AGE	18 to 29 30 to 44 45 to 59 60 and over	53% 44% 57% 59%	19%	18% 13% 13%	8% 17% 16% 12%		2% % % 4%
GENDER	Male Female	<u> </u>		14% 17%	<mark>15%</mark> 12%	13% 11% 79	<u>4%</u>
FAMILIAR WITH WELLS	Not at all familiar Only heard about it Somewhat familiar Very familiar	50% 51% 58% 53%	14	20% % 13% 16%	14% 13% 12% 17%	5% 11% 14% 8% 15% 11%	3% 3%
WELLS NEAR HOME	Aware Unaware	53% 54%		17% 14%	<u>14%</u> 13%	12% 12% 6	<u>4%</u>
GROUP	Indigenous Racialized	50% 55%	2	20% <mark>-</mark> 16%	6% 12%	19%	5%
AB POLITICS	The United CP The AB NDP Another party	51% 82% 56%		20%	13% 14%	5% 5% 6%	3% 2% %
SK POLITICS	The SK Party	55%		19%	8%	13%	5%
BC POLITICS	The BC NDP BC United [BC Liberals] The BC CP	64% 61% 36% 21%		4% 4 11% 20%	8%	27% 13% 6 14% 9%	5%
FEDERAL POLITICS	The Conservative Party The Liberal Party The NDP	50% 76% 75%		20%	13% 3% 7%	10% 6% 5	4% 5% 5%
= T	he oil and gas indust	ry 🗖 The federal government 📑 Someone else 📑	Your pro	ovincial gover	nment 🔳 l	Jnsure / Don't Kı	now

Orphan wells are wells whose owner has gone bankrupt. Which of the following groups do you think should be most responsible for the cost associated with decommissioning these wells and making them safe?



WHICH GROUP IS MOST RESPONSIBLE FOR...

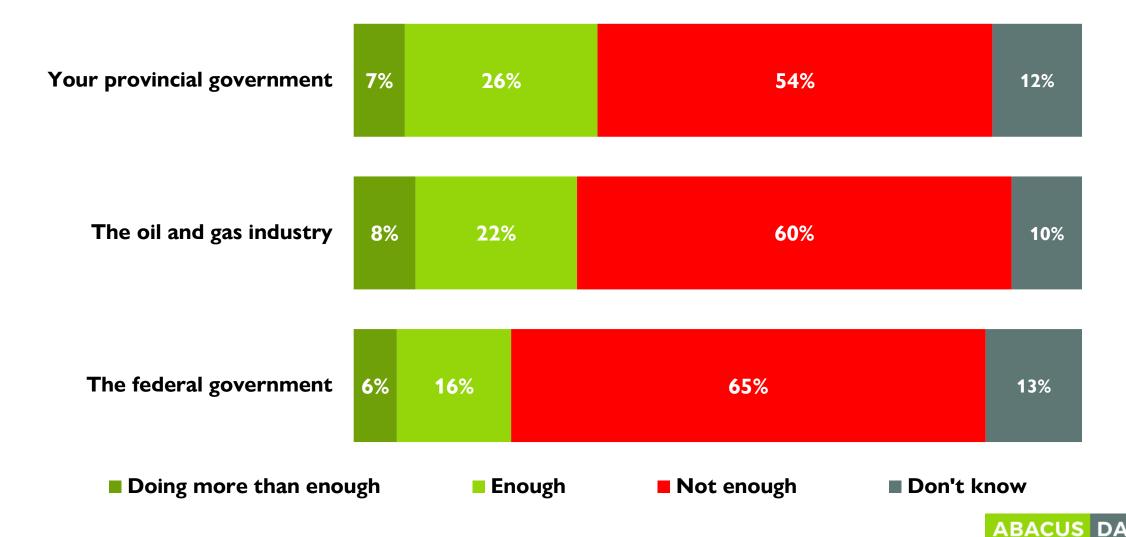
CAUSING ABANDONED WELLS ISSUES IN [PROVINCE]

	Total	39%	28%	15% 11% 8%
PROVINCE	AB BC SK	40% 30% 37%	26% 24% 40%	15% 11% 7% 22% 12% 13% 7% 11% 5%
AGE	18 to 29 30 to 44 45 to 59 60 and over	30% 32% 36% 48%	31% 35% 27% 22%	20% 10% 9% 13% 13% 7% 16% 12% 10% 13% 10% 6%
GENDER	Male Female	40% 37%	26% 29%	17% 14% 3% 13% 8% 12%
FAMILIAR WITH WELLS	Not at all familiar Only heard about it Somewhat familiar Very familiar	33% 39% 40% 41%	30% 29% 24% 29%	15% 7% 16% 10% 11% 11% 18% 11% 7% 13% 16% 7%
WELLS NEAR HOME	Aware Unaware	37% 40%	30% 25%	16% 13% 4 % 4% 11%
GROUP	Indigenous Racialized	20% 31%	32% 36%	29% 15% 4% 19% 10% 4 %
AB POLITICS	The United CP The AB NDP Another party	38% 53% 42%	34% 2% 24%	10% 13% 5% 29% 7% 9% 21% 6% 6%
SK POLITICS	The SK Party	39%		47% 3% 8% 3 %
BC POLITICS	The BC NDP BC United [BC Liberals] The BC CP	45% 28% 18%	19% 15% 3 49%	36% 7% 14% 6% 4% 14% 15%
FEDERAL POLITICS	The Conservative Party The Liberal Party The NDP	36% 42%	2%	12% 12% 4% 28% 9% 14% 16% 18% 1% 3%
- T	he oil and gas industr	y The federal government	Your provincial government	Someone else Unsure / Don't Kno



Which of these groups do you feel is MOST responsible for causing the orphan and abandoned wells issue in?

WORK ON MINIMIZING THE RISK OF OIL/GAS WELLS



WORK ON MINIMIZING THE RISK OF OIL/GAS WELLS YOUR PROVINCIAL GOVERNMENT

	Total	7% 2	6%	54%	12%
PROVINCE	AB BC SK		% 4% 41%	<u>56%</u> 59% 41%	13% 10% 13%
AGE	18 to 29 30 to 44 45 to 59 60 and over		1% 37% 25%	52% 48% 54% 60%	16% 11% 11% 12%
GENDER	Male Female	9% 6% 23%	30%	<u>51%</u> 57%	<u> </u>
FAMILIAR WITH WELLS	Not at all familiar Only heard about it Somewhat familiar Very familiar	7% 21% 9% 5% 27% 9%	24% % 30%	42% 51% 59% 57%	31% 17% 8% 4%
WELLS NEAR HOME	Aware Unaware	9% 6% 24%	29%	54% 54%	<mark>8%</mark> 16%
GROUP	Indigenous Racialized		0% 3%	<u>57%</u> 56%	8% 12%
AB POLITICS	The United CP The AB NDP Another party	10% 4% 6% 4% 22%	33%	43% 83% 71%	15% 7% 4%
SK POLITICS	The SK Party	6%	49%	36%	9%
BC POLITICS	The BC NDP BC United [BC Liberals] The BC CP	4% 4% 9% 9%	<u>36%</u> 35%	91% 44% 50%	11% 6%
FEDERAL POLITICS	The Conservative Party The Liberal Party The NDP		32%	47% 83% 81%	11% 4% 8%
	Doing mo	ore than enough	Enough	Not enough	Don't know



WORK ON MINIMIZING THE RISK OF OIL/GAS WELLS THE OIL AND GAS INDUSTRY

	Total	8%	22%	60%	10%
PROVINCE	AB BC SK	8% 10% 10%	20% 29% 28%	62% 52 51%	
AGE	18 to 29 30 to 44 45 to 59 60 and over	8% 13% 9% 5% 17%	33% 29% 17%	46 64% 69%	53% 6% % 12% 10% 9%
GENDER	Male Female	9% 8%	22% 22%	61% 59%	8% 11%
FAMILIAR WITH WELLS	Not at all familiar Only heard about it Somewhat familiar Very familiar	4% 20% 6% 8% 14%	25% 23% 21%	52% 57% 63% 6	23% 12% 6% 1% 4%
WELLS NEAR HOME	Aware Unaware	12% 6% 21	24%	5 61%	<mark>9% 5% 1</mark> 3%
GROUP	Indigenous Racialized	<u>3% 19%</u> 12%	16%	73% 59%	5% 13%
AB POLITICS	The United CP The AB NDP Another party	10% 3% 6% 8% 16	30% %	88% 71%	%10%3%_ 3%_ 5%
SK POLITICS	The SK Party	16%	29%		48% 7%
BC POLITICS	The BC NDP BC United [BC Liberals] The BC CP	15% 6% 12%	<u>37%</u> 46		6% 11% 32% 11%
FEDERAL POLITICS	The Conservative Party The Liberal Party The NDP	12% 13% 5%	28%	<u>86%</u> 92%	51% 8% 1% 2%
	Doing mo	re than enoug	h Eno	ugh 🗧 Not enoug	h Don't know



WORK ON MINIMIZING THE RISK OF OIL/GAS WELLS THE FEDERAL GOVERNMENT

	Total	6% 16%		65%		13%
PROVINCE	AB BC SK	8% 16%		65% 62% 71%		14% 13% 8%
AGE	18 to 29 30 to 44 45 to 59 60 and over	8% 17% 6% 16%	%	<u>68%</u> 63% 63% 67%		8% 11% 15% 16%
GENDER	Male Female		9%	62% 68%		<u>11%</u> 16%
FAMILIAR WITH WELLS	Not at all familiar Only heard about it Somewhat familiar Very familiar	<u> </u>	20%	52% 66% 72% 63%		29% 14% 10% 7%
WELLS NEAR HOME	Aware Unaware			70% 61%		<mark>9%</mark> 17%
GROUP	Indigenous Racialized			76% 66%		6%6%
AB POLITICS	The United CP The AB NDP Another party	6% 16%		65% 67% 72%		13% 11% 6%
SK POLITICS	The SK Party	3% 23%		70%		4%
BC POLITICS	The BC NDP BC United [BC Liberals] The BC CP	20%	33%	78% 81%	36%	9% 11% 4%
FEDERAL POLITICS	The Conservative Party The Liberal Party The NDP		25%	69% 58 83%	%	10% 7% 5%
	Doing mo	ore than enough	Enough	Not enoug	gh	Don't know



THANK YOU.

DAVID COLETTO CHAIR & CEO DAVID@ABACUSDATA.CA

