

CLIMATE CHANGE COMMON GROUND

a conversation hosted by the Alaska Support Industry Alliance

How to join

Web



1

2

Text



1

2

Introduction

- Goals:
 - LISTEN:
 - Understand audience beliefs about climate issues
 - Understand audience perceptions about AK's Natural Resources
 - TELL:
 - Share perspectives with each other – small groups/to the whole
 - Discuss the role of Resource Extraction in solutions

Please select your age

Under 25

25-40

40-65

65+

How long have you lived in Alaska?

Just Visiting

1-5 years

5-10 years

10+ years

Born and raised

Which best describes your political beliefs?

Conservative

Moderate

Liberal

Make a baseline

“Which of the following accurately describes your views on climate change?”

A	B	C	D	E	F
Alarmed	Concerned	Engaged	Cautious	Doubtful	Unconcerned
I am very concerned about climate change and think the government and individuals need to act now.	I am concerned and think we need to take action but we have time to decide what the appropriate responses should be.	I believe climate change is happening. I am not concerned about the cause. I am aware of current efforts & would like to be involved in solutions.	I suspect that climate change is happening but I am not certain. We have time to make careful decisions about when and whether to respond.	Climate change may be happening but I am not confident about the cause. I am more concerned about overreacting in attempts to make solutions.	I know climate is changing. I don't agree that CO2 emissions cause significant warming and I don't believe we have the ability to significantly change the direction or outcome of a changing climate.

Which of the following accurately describes your views on climate change?

Alarmed

Concerned

Engaged

Cautious

Doubtful

Unconcerned

Baseline set, time to listen!

- Break into pairs or small groups
- Try talking to people who you have not met before
- Be sure to introduce yourself and share your perspectives; and **LISTEN:**
 - Name
 - Background/career/training/study
 - Where you fell on the scale
 - One big reason you feel the way you do
 - Again, be sure to listen and ask questions of your partner!

“Which of the following most accurately describes your feelings about our continued reliance on oil and gas as an energy source?”

A	B	C	D	E	F
<p>Confident Oil and gas have provided energy for many years, and I do not believe that their use has significantly contributed to climate change.</p>	<p>Hopeful I am optimistic that these fuel sources will continue to meet our energy needs, even though they may produce greenhouse gasses when burned.</p>	<p>Cautious I suspect that switching our energy sources will aid in fighting climate change. However, I do not believe it is a crisis.</p>	<p>Disengaged The type of energy that I use and its environmental impacts have never concerned me.</p>	<p>Concerned I believe that we should look at energy alternatives, but we have time to consider the impacts of switching to a new energy source.</p>	<p>Alarmed I suspect that use of oil and gas already has, and will continue to cause irreparable harm to the natural environment. We must act immediately.</p>

Which of the following most accurately describes your feelings about our continued reliance on oil and gas as an energy source?

Confident **A**

Hopeful **B**

Cautious **C**

Disengaged **D**

Concerned **E**

Alarmed **F**

“Which of the following most accurately describes your feelings about moving to a cleaner fuel, such as liquid natural gas?”

A	B	C	D	E
Confident Transitioning to a cleaner fuel, while still carbon-based, is the single best step we can take with our current resources.	Hopeful I am optimistic that these small steps will help us move toward cleaner energy, while not creating an energy disparity in the lag time.	Cautious I suspect that switching our energy sources will aid in fighting climate change, but we must take time to weigh all pros and cons.	Disengaged I have not really thought much about alternative fuel sources.	Doubtful I suspect that any carbon-based fuel source will only lead to more reliance on fossil fuels and more greenhouse gasses in the atmosphere.

Which of the following most accurately describes your feelings about moving to a cleaner fuel, such as liquid natural gas?

Confident

Hopeful

Cautious

Disengaged

Doubtful

“Which of the following most accurately describes your perception of the implementation of a carbon tax?”

A	B	C	D	E	F
Supportive We should implement carbon taxes as soon as possible to curb the use of carbon-based fuels.	Hopeful I believe that carbon taxes are an effective tool, but are not an all-in-one fix to combating climate change. We should implement them with other policies.	Neutral There are good/bad arguments on either side, but I feel that the benefits and disadvantages cancel each other out.	Skeptical I am wary of the implementation of a carbon tax because of the impacts that it will have to the economy, or I do not think it will be very effective.	Opposed I believe that a carbon tax is regressive and will do nothing to help reduce the impacts of climate change.	Undecided I do not know enough to take an informed stance on carbon taxes.

Which of the following most accurately describes your perception of the implementation of a carbon tax?

Supportive

Hopeful

Neutral

Skeptical

Opposed

Undecided

“Which of the following most accurately describes your perception of the role that mining plays in advancing our energy future?”

A	B	C	D	E
<p>Confident While respecting the natural environment, we should actively pursue mineral products (copper/cobalt/etc.) to change our energy landscape & limit dependence on foreign imports.</p>	<p>Hopeful I am optimistic that such projects may champion new energy technology, like batteries, but I still have reservations about adverse environmental impact.</p>	<p>Cautious I understand the role that mineral resources play in changing our energy landscape, but I am hesitant to support resource extraction.</p>	<p>Disengaged I have not really thought much about the role of mineral resources/metals in terms of climate change.</p>	<p>Doubtful I suspect that any mineral extraction will only have a negative impact on the natural environment, regardless of the long-term goals.</p>

Which of the following most accurately describes your perception of the role that mining plays in advancing our energy future?

Confident

Hopeful

Cautious

Disengaged

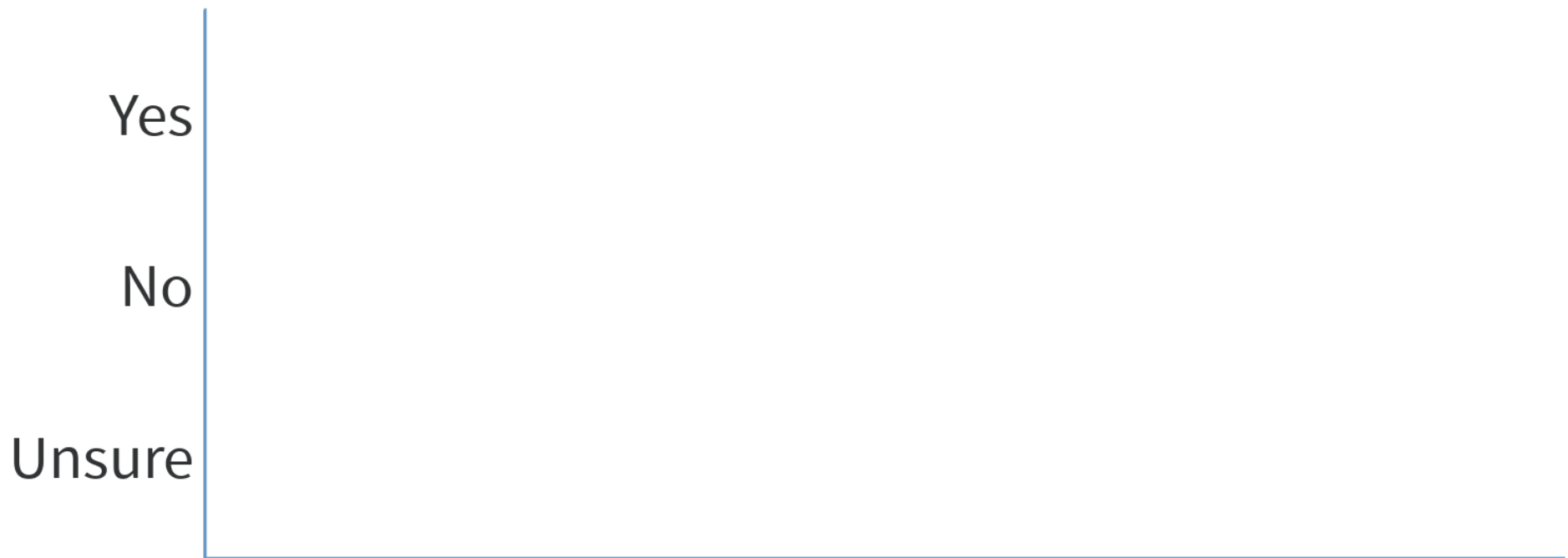
Doubtful

Please indicate your perspective on the following:

“Mining plays a significant role in the development of alternative energy sources.”

Yes	No	Unsure
I believe that mining plays an integral role in creating mineral products (copper/cobalt/etc.) necessary to advancing alternative energy projects.	I do not think that mining plays a significant role in the development of alternative energy sources. We should not mine.	I have not really thought much about the role of metals in terms of our energy future.

Mining plays a significant role in the development of alternative energy sources.



Group reflection

- Now, spend a few minutes listening to the perspectives of people at your table regarding the questions.
- After sharing in small groups, we will ask for a few individuals to share something they learned or a new insight they gained during small groups

FINDING COMMON GROUND



ACCORDING TO A HEART RESEARCH POLL

LOOKING AT ISSUES FOR THE

2020 ELECTION

47%

OF AMERICANS
CARE A GREAT DEAL
ABOUT CLIMATE
ISSUES.

Regardless of personal ideals, most people believe that **emissions are negative**.

The difference is perspective.



THE ROLE OF INDUSTRY IN ADDRESSING CLIMATE CHANGE



88%

**OF AMERICANS FAVOR
ENERGY COMPANIES HELPING
MEET ENVIRONMENTAL
CHALLENGES**

*based on a Harris Poll of 1000 registered voters // https://www.api.org/~media/Files/Policy/SOAE-2019/SOAE2019_Report.pdf

There is no future of curbing climate change without industry.

Industry, State, and Nation are moving toward renewable & clean energy.



Igiguig hydrokinetic power
(Ocean Renewable Power Co.)¹

BP commits \$100 million to fund new emission reduction projects

Release date: March 26, 2019

Kodiak has almost 100 percent renewable power. It took some sci-fi tech to get there.

By Rachel Waldholz, Alaska's Energy Desk | September 15, 2017 | Alaska's Energy Desk | Energy & Mining | Science & Tech

ConocoPhillips Seeks Natural Gas Lifeline for 'Energy Transition'

Words by Tina Casey



MAR 04, 2019

Georgetown Texas goes 100% renewable ²



1. Image: Ocean Renewable Power Co. <https://bit.ly/2x8fnxr>
2. Image: <https://georgetown.org/2018/06/29/georgetownns-energy-100-percent-renewable-with-solar-plant/>

UAF Unmanned Aircraft System (UAS)

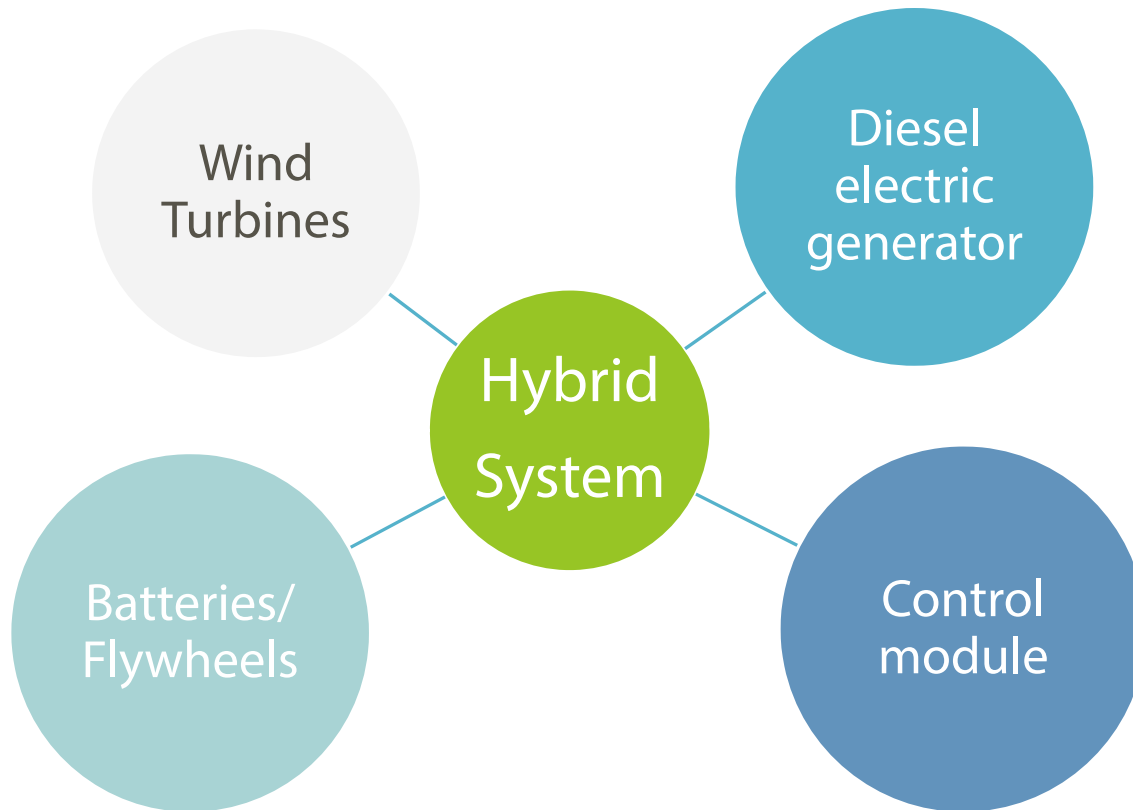


Example of unmanned aircraft used in the ACUASI program at UAF, with onboard camera monitoring system (payload)

- Collaborations among academia, industry, native associations, private business & government agencies
- Wide use:
 - Pipeline surveillance
 - Leak detection
 - Cargo delivery
 - Spill response
 - Mammal surveys
- Increases safety through automation

ACEP (UAF) Power Systems Integration

optimize diesel-renewable hybrid energy systems for islanded electric microgrids



Includes partnership with:

- 6 cities
- 8 Tribal Councils
- 7 Owner-operators
- 3+ Economic Foundations
- 8+ National Labs
- Native Corps
- Small businesses
- Energy companies
- Engineering firms
- Academic institutions



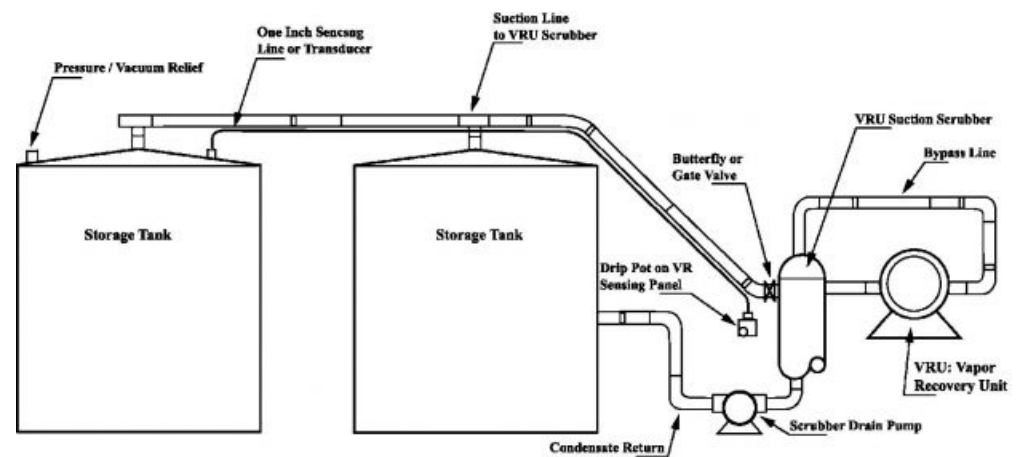
Reducing Methane Emissions

“Technologies helped decrease methane emissions from natural gas systems 16 percent since 1990 while natural gas production increased more than 50 percent.”



Multi-rotor UAS
outfitted with in-situ
gas detection sensor

Colorado State University:
BP funding drone-based monitoring
research to decrease detection time¹



North Slope:
BP & ConocoPhillips have implemented
methane vapor recovery – can be 95% effective

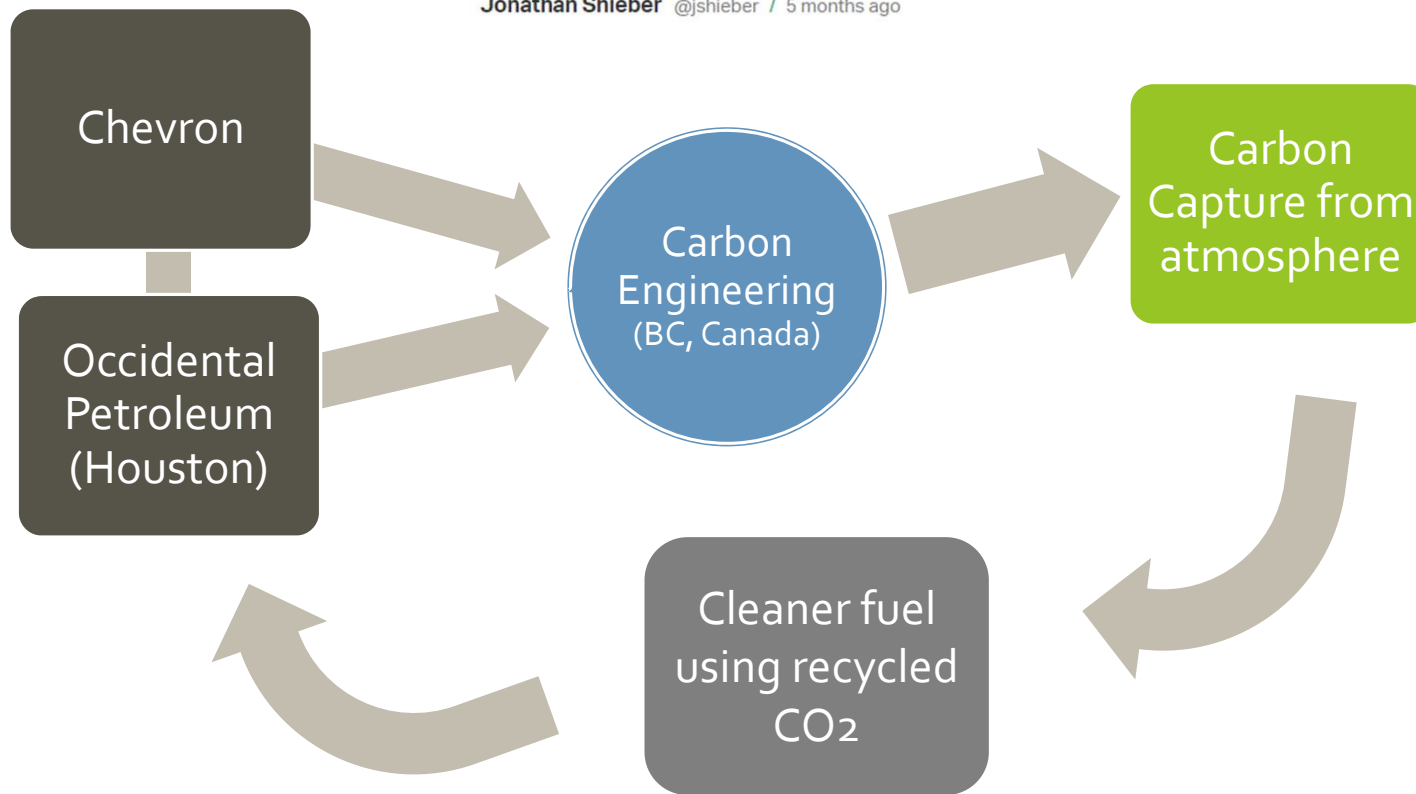
1. https://www.bp.com/en_us/bp-us/media-room/press-releases/bp-and-environmental-defense-fund-collaborate-to-reduce-methane-emissions.html
2. https://www.globalmethane.org/documents/events_oilgas_121002_15.pdf
3. <https://hy-bon.com/blog/faq-about-vapor-recovery-units/>
4. <https://powerpastimpossible.org/state-of-american-energy/energy-for-a-cleaner-environment/>

Carbon Capture

Oil and gas giants Chevron and Occidental are backing tech to combat carbon emissions

Jonathan Shieber @jshieber / 5 months ago

[Comment](#)



Industry Investments in Renewables

Financial Contributions

“ExxonMobil, Royal Dutch Shell, Chevron, BP, and Total SA generated a combined \$44.6 billion in free cash [in FY 18].”

ExxonMobil – \$500M joint venture with Synthetic genomics to engineer algae to produce crude from CO₂.
—Work with Renewable Energy Group to make biodiesel from waste biomass

[Lightsource] BP – owns 1.4 GW of wind and solar power (partner with DuPont)
—1.3 GW of solar capacity to date
— 11 wind sites; top wind energy producer

Royal Dutch Shell – Stake holder in solar Silicon Ranch
— Recently acquired sonnen, a leader in smart energy storage

March 2019: BP set aside \$100 million to fund projects that will reduce emissions in its Upstream oil and gas operations

<https://www.fool.com/investing/2018/06/04/big-oil-is-investing-billions-in-renewable-energy.aspx>

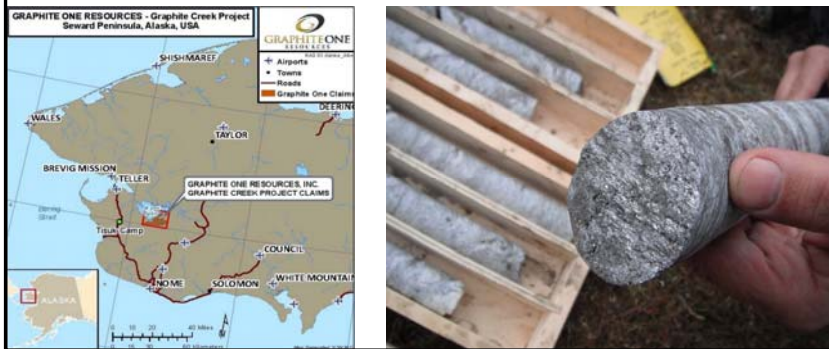
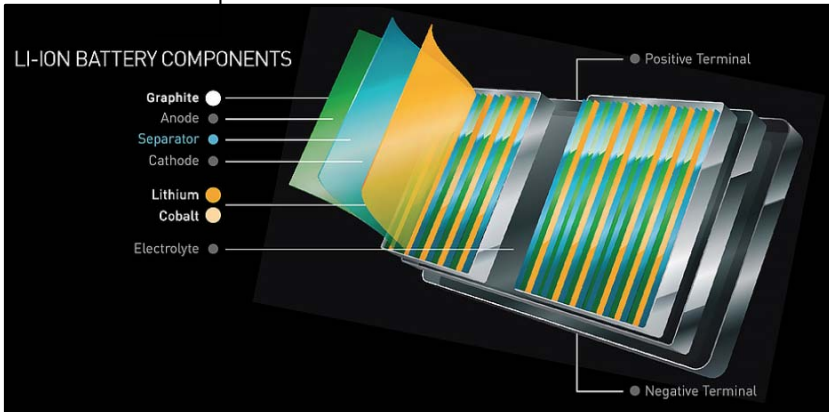
<https://www.bp.com/en/global/corporate/what-we-do/alternative-energy.html>

<https://www.shell.com/energy-and-innovation/new-energies/new-energies-media-releases/shell-completes-acquisition-of-sonnen.html>

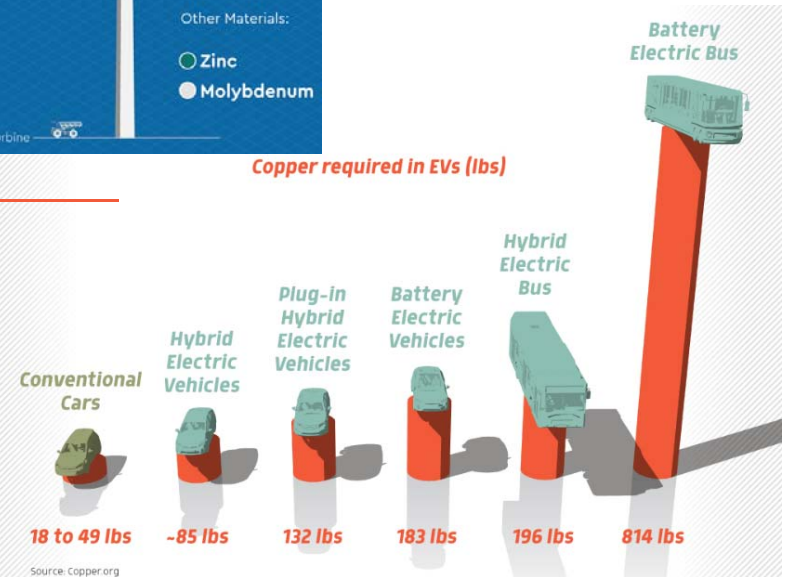
<https://www.lngworldnews.com/bp-creates-100-mln-fund-for-ghg-emissions-reduction-projects/>

Mining and the Future of Renewables

Batteries



In 2016, nearly 26 million lbs. of copper were used by the largest EV maker, BYD, in electric vehicles.



<https://www.batterymaterialresources.com/>
<http://www.graphiteoneresources.com/projects/photos/>

<https://mineralsmakelife.org/resources/minerals-make-manufacturing/>
<https://www.visualcapitalist.com/how-much-copper-is-in-an-electric-vehicle/>
<https://www.visualcapitalist.com/climate-smart-mining-minerals-for-climate-action/>

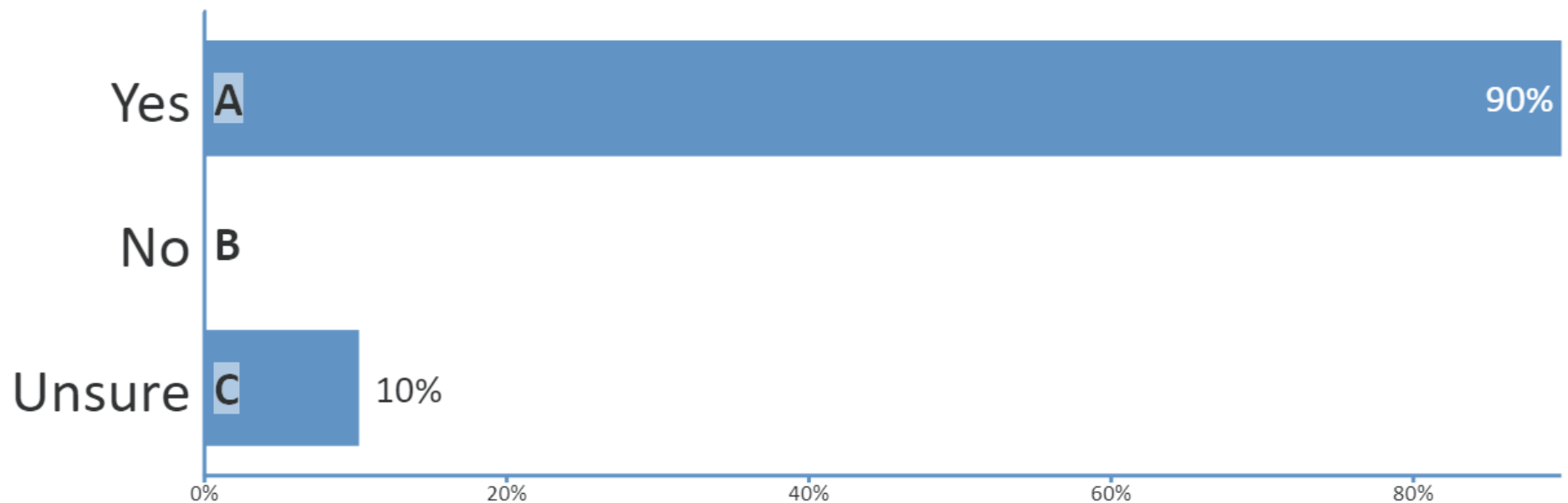
Takeaways from today

- What we heard from you
- A few thoughts to leave you with
 - Common Ground with regard to solutions already exists
 - Resource extraction is a critical component of the path to a clean energy future
 - Industry is already working on technology to reduce emissions
 - Industry is a significant funder of efforts to achieve a clean energy future

Respond at Pollev.com/akalliance

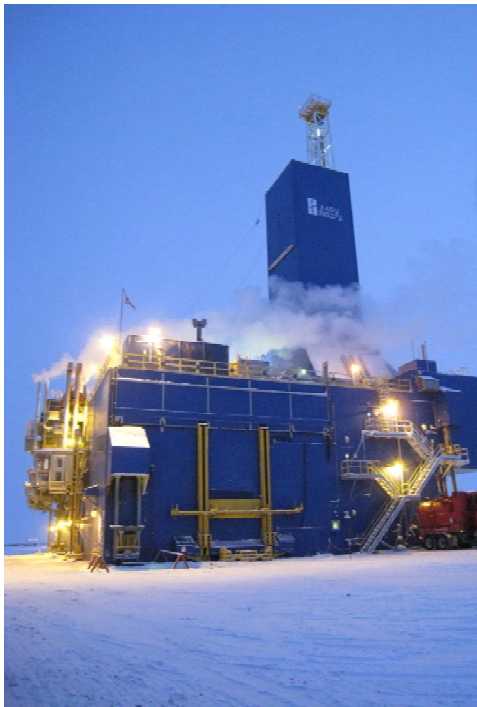
Text **AKALLIANCE** to **22333** once to join, then **A, B, or C**

Mining plays a significant role in the development of alternative energy sources.



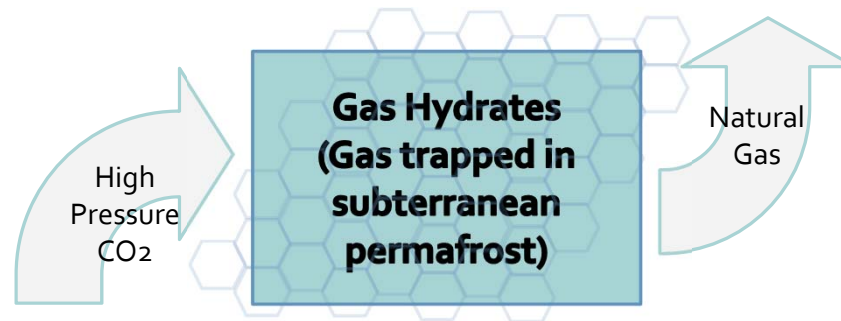
Hydrate Wells

Methane removal + CO₂ sequestration



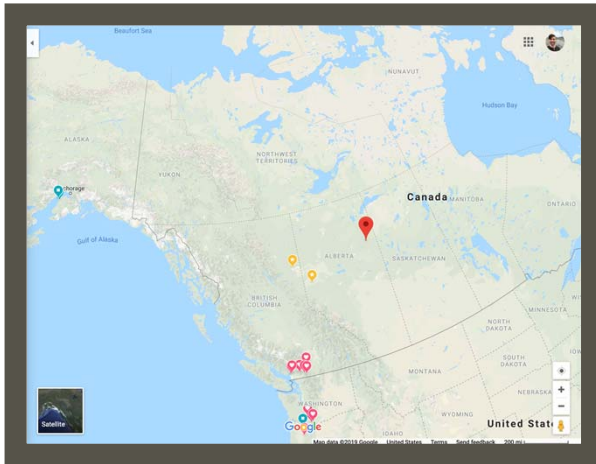
The Parker 272 rig on location at the 7-11-12 site, Prudhoe Bay Unit, December 2018. Courtesy of BP.

- Partnership between BP, Prudhoe Bay Unit Owners, DOE, NETL, Japan Oil, Gas, and Metals National Corp., USGS, and PRA Alaska
- Studies as early as the 90's, this project began Nov. 2018



Scheme showing the process of pumping in high pressure CO₂ to extract trapped methane and other gas hydrates.

Ft. McMurray – Compressed Natural Gas The Future of Transportation(?)



CNG fueling process

Natural Gas Fueled Vehicles

Benefits:

- No refining prior to use as fuel
- Much cleaner than diesel
- Natural gas is prevalent
- Relatively inexpensive



Source: FortisBC

<http://www.transportation.alberta.ca/Content/docType57/Production/NGVBrief.pdf>

<https://www.cbc.ca/news/business/lng-diesel-bison-shell-cnrail-2016-1.3414257>

<http://northeastmidstream.com/data/uploads/2016-cga-issue-6.pdf>

Challenges: