

**ALASKA STATE LEGISLATURE**  
**HOUSE SPECIAL COMMITTEE ON WAYS AND MEANS**

February 27, 2023

6:00 p.m.

**MEMBERS PRESENT**

Representative Ben Carpenter, Chair  
Representative Jamie Allard  
Representative Tom McKay  
Representative Kevin McCabe  
Representative Cathy Tilton  
Representative Andrew Gray  
Representative Cliff Groh

**MEMBERS ABSENT**

All members present

**COMMITTEE CALENDAR**

PRESENTATION(S) : OCEAN PASTURE RESTORATION

- HEARD

PRESENTATION(S) : CARBON CAPTURE/SEQUESTRATION

- HEARD

**PREVIOUS COMMITTEE ACTION**

No previous action to record

**WITNESS REGISTER**

TED CROOKSTON, Vice President  
OPR Alaska, Inc.  
OPR World, Inc.  
Kenai, Alaska

**POSITION STATEMENT:** Co-presented a PowerPoint on ocean pasture restoration, titled "OPR Alaska, Inc."

RUSS GEORGE, CEO  
OPR Alaska, Inc.  
OPR World, Inc.  
Kenai, Alaska

**POSITION STATEMENT:** Co-presented a PowerPoint on ocean pasture restoration, titled "OPR Alaska Inc."

JOHN CROWTHER, Deputy Commissioner  
Office of the Commissioner  
Department of Natural Resources  
Anchorage, Alaska

**POSITION STATEMENT:** Gave a PowerPoint presentation, titled "Alaska's Carbon Management Opportunities."

**ACTION NARRATIVE**

[6:00:25 PM](#)

**CHAIR BEN CARPENTER** called the House Special Committee on Ways and Means meeting to order at 6:00 p.m. Representatives Allard, McKay, McCabe, Tilton and Carpenter were present at the call to order. Representatives Groh and Gray arrived as the meeting was in progress.

**PRESENTATION(S): Ocean Pasture Restoration**

[6:01:13 PM](#)

CHAIR CARPENTER announced that the first order of business would be a presentation on ocean pasture restoration.

[6:03:12 PM](#)

TED CROOKSTON, Vice President, OPR Alaska, Inc., OPR World, Inc., co-presented the PowerPoint presentation, titled "OPR Alaska, Inc" [hardcopy included in the committee packet]. He explained the presentation will lay out the steps needed for ocean pasture restoration (OPR). This includes how the legislature could define a public-private partnership between OPR Alaska and the state, as well as supporting federal legislation.

[6:08:09 PM](#)

RUSS GEORGE, CEO, OPR Alaska, Inc., OPR World, Inc., co-presented the PowerPoint presentation, titled "OPR Alaska, Inc." On slide 3, he shared that he has been doing eco-restoration projects most of his life and was influenced by OPR's founder, John Martin. He stated that Mr. Martin's assertion is global warming could be resolved if plankton issues are addressed. He pointed out that ORP has been proven to be safe and sustainable,

and the task now is to prove ORP can be economically successful. Regarding the company's profits, he explained that it would not own the salmon; however, it would own the carbon offsets. On slide 4, he continued that the goal would be to capture 10 million to 100 million tons of carbon dioxide (CO2) from the ocean and turn this into phytoplankton. He said the federal government has made carbon capture an initiative and is seeking technologies to be invented which can produce carbon offsets for less than \$100 a ton. He stated that two weeks ago the U.S. Department of Energy (DoE) released a \$45 million Advanced Research Projects Agency-Energy (ARPA-E) grant to develop hardware technologies to measure carbon capture in the ocean. He said the Paris Climate Accords directs that there should be work to make "blue carbon," which is the process of growing plant life in the ocean to store CO2.

[6:12:48 PM](#)

MR. GEORGE showed a pie chart on slide 5 which points out the location of carbon on earth, with 94 percent in the oceans. He presented a map on slide 6 of the potential Alaska ocean pasture regions, which could grow to be about 30,000 to 50,000 square kilometers. He moved to slide 7 and explained that OPR is a nature-based technology which has been proven to restore fish. He stated that OPR is derived from 50 years of ocean science and can deliver large volumes of high-value blue carbon. He moved to slide 8 and pointed out that in Alaska the volcano Kasatochi erupted in 2008, leaving millions of tons of ash in salmon pastures in the Gulf of Alaska. He stated that in 2010 the fish came back to British Columbia in the largest return of sockeye salmon in history. He acknowledged Mr. Crookston's comment that the large fish returns were in 2010 and 2011.

[6:16:52 PM](#)

MR. GEORGE explained that after a giant dust storm in Australia, millions of tons of dust were deposited in the ocean, and this caused a return of fish. He also explained how Antarctic icebergs can hold centuries of accumulated windblown dust, and once melted, the ocean is restored to health. He said that today, because of high CO2, grass is growing and covering the world's dusty lands, and this is not good news for oceans, as mineral dust regulates the oceans primary productivity. In other words, more grass means less dust blowing to feed ocean pastures. He moved to slide 9 to show pictures of the Gobi Desert, which is the primary source of dust for Alaska ocean pastures. He explained that the desert has been greening for

the last 20 years and reiterated that more grass growing means less dust blowing, thereby causing the ocean to be in a drought of dust.

MR. GEORGE moved to slide 10 and said that the U.S. recognized a crisis in 1970, when plankton population collapsed in the oceans. He explained that the first OPR satellite launched in 1978, capturing the picture displayed at the bottom of the slide. He pointed out that slide 11 explains the technology and methodology of OPR.

[6:20:47 PM](#)

MR. GEORGE moved to slide 12 to detail the results of a 2012 experiment which targeted pink salmon. He said that a pink salmon pasture off Haida Gwaii had been dusted and the "salmon feasted and thrived." He stated that during the following year salmon swam in record numbers into the rivers and streams throughout Alaska, Canada, and the Pacific Northwest. He moved to slide 13 and explained that 2 trillion tons of CO2 has already been captured in the atmosphere. He explained that OPR Alaska has proprietary technology, and each year one of the company's OPR will capture 10 to 100 million tons of CO2. He pointed out that OPR Alaska has employees in the state and pays corporate taxes. The message that OPR Alaska wants to send to the state is the ocean pastures are a state resource. He said the company would support a branding deal, offering the state the same mineral royalty as an oil company. He pointed out on slide 16 that OPR Alaska would pay a 12.5 percent royalty for branding rights. He outlined that, in annual sales for 100 million tons of blue carbon at \$100 a ton, the total would be \$10 Billion in state revenue.

[6:27:28 PM](#)

MR. GEORGE summarized slide 17, which read as follows [original punctuation provided]:

OPR Alaska Business Model

3 Year Commercial Scale Ocean Pasture Restoration & Development Plan:

- \$20 Million over 3 years venture finance
- Public private partnership agreement with Alaska
- 3 year pilot project science proves OPR is SAFE, SUSTAINABLE, AND SUCCESSFUL
- Verification and certification proves 'blue carbon' sales compliant with Paris Treaty

- On going management of Alaska ocean pastures continues for 50+ years

MR. GEORGE moved to slide 18, which read as follows [original punctuation provided]:

OPR Alaska ASK

Support: OPR Alaska Resolution

Support: Federal Ocean Restoration Act

Support: OPR Alaska / Alaska Public Private Partnership

Support: OPR Alaska eligibility for Salmon Cost Recovery Program

Support: OPR Alaska as the number one carbon capture and storage technology for the nation

[6:32:18 PM](#)

MR. GEORGE, in response to a question from Chair Carpenter, answered that ocean pastures are eddies in the ocean which attract fish. He recounted the results of the 2013 Haida Gwaii project where the eddies bloomed as a result of OPR.

[6:36:02 PM](#)

MR. GEORGE, in response to a question from Representative Gray, answered that the carbon offset process uses a small percentage of the carbon in photosynthesis, and this would be "blue carbon." He said the ARPA-E would help fund the fine tuning of the process, and [OPR World, Inc.] would bring the product to market. He added that the mission is to bring all the pastures on the map into production; however, the current question is whether enough value can be produced. In response to a follow-up question, he stated that iron is everywhere in the ocean, and it arrives by natural sources. He explained that today's high CO2 makes grass grow on land better, decreasing the dust, causing the oceans to die. He expressed the opinion that the OPR process is safe, as the plankton blooms from dust storms have been studied for many years. In response to a comment that the Sahara Desert is growing and is blowing dust throughout the world, he stated that there is a plan to plant the desert south of the Sahara in order to limit dust.

[6:45:19 PM](#)

MR. CROOKSTON explained that when the company unloaded 100,000 pounds of dust in 100 square miles, this equaled one 50-pound bag of iron per square mile.

MR. GEORGE stressed that the presence of iron is like a switch during photosynthesis; however, large amounts of iron would not make a difference.

[6:46:40 PM](#)

REPRESENTATIVE ALLARD asked whether carbon efforts could undermine the state's resource development industry.

MR. GEORGE shared that he spoke with a tar sands company who would like to buy OPR's carbon offsets so it can make its oil "green." He said that the Paris Climate Accord supports offsetting emissions. He further responded that OPR would not "hurt" the resource industry.

[6:49:07 PM](#)

REPRESENTATIVE GROH expressed the understanding that there are less fish in the waters because of higher temperatures in the oceans, which is a result of climate change and pollution. He asked if the presenters are suggesting that the issue actually relates to less dust from land reaching the ocean.

MR. GEORGE responded in the affirmative. He pointed out that the oceans downwind of deserts are high in iron; however, there are vast regions of the oceans low in iron. He explained that the Gulf of Alaska is high in nutrients but low in plant life growth. In response to a follow-up question concerning why OPR has not been used more, explained that in 1990 John Martin had announced the idea of dumping iron in the ocean. He continued that the governments of Egypt and India have recently committed to OPR. To bring back fish and to provide blue carbon for revenue, coastal African nations are showing interest. He noted that OPR Madagascar has been in operation since 2019. In follow up, he responded that academic studies have shown OPR is safe. He pointed out a report from the National Academy of Science, and he added that there is an abundance of science papers on the topic.

[6:54:08 PM](#)

MR. GEORGE, in response to a question from Representative McKay, answered that volcanos add iron to the oceans. He used the

Tongan eruption from last year as an example. He stated that satellites caught images of the ocean turning from blue to green where the ash plumes had landed. In response to a follow-up question, he explained that there are four volcanos in Alaska which have put ash in the Gulf of Alaska. He pointed out that the OPR process only works during the spring, not during the winter. In response to a question about salmon farms, he stated that concerns have been raised about flooding the market with salmon.

[6:56:50 PM](#)

MR. GEORGE, in response to a question from Representative Allard, stated that in 2005 he gave the first testimony in California about OPR. He said Bill Gates put \$200 million into a direct air-capture machine which scrubs CO2 from the air, and it has scrubbed 4,000 tons of CO2 from the atmosphere in one year, and now more funding is being received from DoE to expand this process.

[6:59:23 PM](#)

MR. GEORGE, in response to a question from Representative Gray concerning harmful algae blooms, explained that harmful algae blooms, like red tide, are not an offshore issue. He said that the company only works offshore because coastal waters are already saturated with iron.

[7:01:20 PM](#)

The committee took an at-ease from 7:01 p.m. to 7:02 p.m.

**PRESENTATION(S): Carbon Capture/Sequestration**

[7:02:57 PM](#)

CHAIR CARPENTER announced that the final order of business would be a presentation on carbon capture and sequestration.

[7:03:40 PM](#)

JOHN CROWTHER, Deputy Commissioner, Office of the Commissioner, Department of Natural Resources (DNR), gave a PowerPoint presentation, titled "Alaska's Carbon Management Opportunities" [hardcopy included in the committee packet]. He outlined that the presentation would cover carbon management, carbon offsets, carbon capture, carbon utilization, carbon storage, and why

carbon management is food for Alaska. He advanced to slide 4 to explain carbon management using an illustration. He moved to slide 5 and said carbon management is not simple, as there are 170 types of carbon credits. He pointed out the different types of carbon credits businesses are seeking to create. He advanced to slide 7 and pointed to a map of Alaska and the areas owned by the state. He said that DNR supports making these lands available for carbon capture use and storage (CCUS).

[7:09:28 PM](#)

MR. CROWTHER moved to slide 8 and presented data from the Boston Consulting Group, which addresses the value in carbon markets. He said that in 2021 the voluntary market was \$2 billion in value. He voiced the opinion that this market should be sought rather than a compliance market.

[7:11:42 PM](#)

REPRESENTATIVE MCCABE asked for assurances that the program would not turn into a cap-and-trade market.

MR. CROWTHER answered that the governor is not proposing a cap-and-trade-program, and any proposed legislation would not include land restrictions.

[7:13:32 PM](#)

REPRESENTATIVE MCKAY asked whether a future state administration could convert this type of program into a mandatory cap-and-trade program, and he asked whether any proposed legislation could prevent this from happening.

MR. CROWTHER answered that the intent of legislation would be to make carbon available as a resource and not to make revenue through compliance.

[7:16:08 PM](#)

REPRESENTATIVE MCCABE stated that the legislature has a constitutional mandate to develop resources.

MR. CROWTHER answered that DOR recommends developing and using carbon resources for the benefit of the people.

[7:17:26 PM](#)

MR. CROWTHER, in response to a question from Representative Allard, explained the CCUS process would be laid out in legislation. When sequestering carbon, an operator would have to pay for the right to state land, and the operator would have to pay a fee which would go to the carbon capture storage fund. He said the intent of the fund would be to cover long-term liabilities the state may have with CCUS activities. He detailed that the state assumes title to the carbon after 10 years of the project closing. He compared this to insurance markets where people pay to purchase coverage, so the liability is borne by other parties, as well as the direct holder. He noted that there is no tax liability. He stated that, if legislation passes, DNR would have an obligation to continue to monitor the liability.

[7:21:14 PM](#)

MR. CROWTHER, in response to a question from Chair Carpenter, answered that some other public jurisdictions are "dipping their toes" into the CCUS space. He explained that in Washington and Michigan new projects need 10,000 to 100,000 acres of land to generate offsets for the communities; Alaska is unique because the state brings millions of acres to the carbon offset space.

[7:23:31 PM](#)

MR. CROWTHER, in response to a question from Representative McCabe, answered that CCUS would not restrict land access, as people could still traverse the land.

REPRESENTATIVE MCCABE expressed the opinion that the best "carbon eaters" would be growing trees. He pointed out that, in order to conduct selective harvests, logging roads would need to be built.

MR. CROWTHER, in response, answered that increased road access is a part of the plan. He said the intent of carbon offsets in forests is to increase carbon on the landscape, and part of this may require forest thinning and reforestation; therefore, new roads could be needed.

[7:28:10 PM](#)

MR. CROWTHER pointed to slide 9, which read as follows [original punctuation provided]:

#### KEY ATTRIBUTES OF CARBON CREDITS

Robust verification and validation of carbon removal and reduction is essential to credibly claim credits

Real

A physical project with defined boundaries and a tangible impact on GHG emissions

Measured

Measurable and verifiable impact on GHG emissions

Permanent

Indefinite removal or reduction of GHG emissions

Additional

Project wholly reliant on Carbon finance

Independently Verified

Competent and independent assessment and verification

MR. CROWTHER advanced to slide 11 to present a flow chart illustration of a typical CCUS project. He summarized slide 12, which read as follows [original punctuation provided]:

CCUS - WHAT AND WHY?

What is it?

- Carbon Capture, Utilization, and Storage (CCUS) is a process to capture carbon dioxide (CO<sub>2</sub>), from industrial processes, point sources, or even directly from the atmosphere, for the purpose of utilizing it for other activities or storing it underground in geologic formations

Why Now?

- Sets the stage for continued development of Alaska's oil resources, and potential major gas development
- The CCUS market is rapidly expanding, both within the U.S. and worldwide
- Recent federal legislation has expanded grants and tax incentives for CCUS, increasing industry interest
- Federal funds are available for states seeking Class VI well permitting, showing federal support for state primacy
- Protracted project timelines and milestone requirements in

the federal tax credit structure necessitate prompt action

What is the potential in Alaska?

- Alaska's depleted oil & gas fields, saline aquifers, and deep coal seams have significant CO2 storage potential
- Alaska has important competitive advantages we own the pore space & we know the reservoirs
- Fifteen other states have passed CCUS omnibus legislation that we have learned from

[7:32:19 PM](#)

MR. CROWTHER moved to slide 13 to explain the requirements for geologic CO2 storage. He pointed to a graphic regarding the Kenai Gas Field, which showed different hydrocarbon reservoirs. He moved to slide 14 and provided an overview of the basins in Alaska which can store carbon. While on slide 15, he detailed CCUS in other places across the U.S., showing states with framework legislation. He moved to slide 16 to summarize the work of the University of Alaska led CCUS work group.

[7:36:17 PM](#)

MR. CROWTHER explained the graph on slide 18, which was sourced from the International Energy Agency. He stated that it assumes a scenario where the world is net-zero on carbon emissions by 2070. He said there are currently about 35 commercial CCUS facilities globally, and in order to hit the scenario, there must be 2,500 facilities operating. He summarized slide 19, which read as follows [original punctuation provided]:

NET ZERO GREENHOUSE GAS (GHG) INITIATIVES OF NORTH SLOPE COMPANIES

ConocoPhillips Emissions Reductions Targets and Performance

- Reduce methane intensity by 10% and routine flaring to zero by 2025.
  - Reduce Scope 1 and Scope 2 Greenhouse Gas (GHG) intensity by 40-50% (gross operated and net equity) by 2030
  - Net zero Scope 1 and Scope 2 emissions by 2050
- Emissions Reduction Targets | ConocoPhillips

ENI's Strategy Against Climate Change

- 35% reduction in net Scope 1, 2, and 3 emissions by 2030
  - 55% reduction in net Scope 1, 2, and 3 emissions by 2035
  - 80% reduction in net Scope 1, 2, and 3 emissions by 2040
  - Net zero Scope 1, 2, and 3 emissions by 2050
- Net Zero al 2050 | Eni

#### Exxon 2030 Greenhouse Gas (GHG) Emission Reduction Plans:

(Relative to 2016 level and apply to Scope 1 and Scope 2 GHG emissions from operated assets)

- 20-30% reduction in corporate wide GHG intensity
  - 40-50% reduction in upstream GHG intensity
  - 70-80% reduction in corporate wide methane intensity
  - 60-70% reduction in corporate wide flaring intensity
- Advancing climate solutions | ExxonMobil

#### Hilcorp

"We have to operate to the same high standards as everyone else. We may be private, but we have capital providers, we have partners, we have lots of other people involved in business with us. They're feeling those pressures (i.e. ESG, emissions reductions), and we have to be responsive to those as well." - Greg Lalicker , Hilcorp CEO.

How America's Biggest Privately Owned Oil Company Takes A Divergent Approach To The Energy Transition (forbes.com)

#### Repsol Path Towards Decarbonization

- 55% reduction in scope 1 and scope 2 emissions in operated assets by 2025
- 30% reduction in scope 1, 2, and 3 net emissions by 2030
- Net zero by 2050

Net zero emissions by 2050 commitment | Repsol

#### Santos Path to Net Zero

- 26-30% reduction in scope 1 and scope 2 absolute emissions (from 2020 baseline) by 2030
- Actively work with customers to reduce scope 1 and scope 2 emissions by > 1 million tons of carbon dioxide per year by 2030

- Scope 1 and scope 2 absolute emissions at net zero by 2040.
  - Santos has committed to net zero emissions (scope 1 and scope 2) for the Pikka Project
- Santos to be net zero emissions by 2040 | Santos  
Santos Announces Pikka FID | Santos

[7:38:38 PM](#)

CHAIR CARPENTER questioned whether the goals on slide 19 represent an altruistic desire or whether these are business choices.

MR. CROWTHER offered the understanding that all companies are in the business of producing energy and generating returns, and investment is a precondition of this. He related that capital providers are saying carbon management is part of providing an investment, and companies are coming forward with these goals. In response to a follow-up question, he stated that companies are working from internal goals, and if the state were to give them in-jurisdiction opportunities, the companies would be more likely to pursue this. He concluded the presentation on slide 20.

[7:42:43 PM](#)

The committee took an at-ease from 7:42 p.m. to 7:43 p.m.

[7:43:26 PM](#)

MR. CROWTHER directed members' attention to the document titled "Hypothetical Revenue Opportunities." He explained the three scenarios: scenario one assumes adding CCUS capability for an existing regional power, which would provide a total of \$11,796,641 in revenue to the state in over 20 years; scenario two assumes a standalone CCUS project on the North Slope for existing resource operations, which would generate \$210,761,893 in revenue over 20 years; scenario three assumes importing CO2 and sequestering it in Alaska, which would generate \$1,014,120,959 in revenue over 40 years.

[7:49:18 PM](#)

REPRESENTATIVE GRAY asked if the state could get carbon credits for acres of undeveloped trees.

MR. CROWTHER answered that development would make the project more valuable but is not inherently the only way to do a project. He said that DNR supports making the lands available, and if people come forward to start a CCUS project, the department would offer the ability to do so.

REPRESENTATIVE GRAY expressed the understanding that the state could be paid to not cut down trees, which were not going to be cut down. He asked if the state threatened to cut the trees down, would it then be paid not to.

MR. CROWTHER responded that, if all of the areas which have active harvests stopped for five years, it would be a big change. He explained that the department's longer-term hope is that enough energy is in the system to justify putting roads in areas where there is no activity and also justify re-forestation.

[7:52:55 PM](#)

CHAIR CARPENTER asked whether carbon projects have been done in Alaska.

MR. CROWTHER answered that Alaska Native Regional Corporations have done much work in CCUS and have brought in millions in revenue.

CHAIR CARPENTER questioned the realized revenues in these situations.

MR. CROWTHER responded that this is only speculation. He said the number of credits generated are often logged in public registries. He advised that the credit market is volatile.

[7:55:24 PM](#)

REPRESENTATIVE GRAY asked whether it is possible for the state to get paid to not extract oil from the ground.

MR. CROWTHER expressed uncertainty about such a proposal. He said the department has an obligation to maximize value and development.

REPRESENTATIVE GRAY pointed out that the oil would still be in the ground.

[7:57:06 PM](#)

REPRESENTATIVE MCCABE offered that there is a missing line in scenarios one and two. He suggested that these scenarios should show consumer expense increasing because power companies may have to ship carbon outside the state.

MR. CROWTHER answered that any proposed legislation would not require CCUS, so the consumer would not bear the cost of a power company doing this. He pointed out that there is coal in Alaska, but it is hard to attract investment because CO2 is ever present to investors. He said, if carbon emissions were to be addressed in state, it would be a consumer benefit.

[8:00:12 PM](#)

CHAIR CARPENTER thanked the presenters.

[8:00:30 PM](#)

**ADJOURNMENT**

There being no further business before the committee, the House Special Committee on Ways and Means meeting was adjourned at 8:00 p.m.