19.1125.02000

FISCAL NOTE
Requested by Legislative Council
02/12/2019

Amendment to: SB 2332

1 A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	2017-2019 Biennium		2019-2021 Biennium		2021-2023 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues						
Expenditures						
Appropriations						

1 B. **County, city, school district and township fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

	2017-2019 Biennium	2019-2021 Biennium	2021-2023 Biennium
Counties			
Cities			
School Districts			
Townships			

2 A. **Bill and fiscal impact summary:** *Provide a brief summary of the measure, including description of the provisions having fiscal impact (limited to 300 characters).*

Engrossed SB 2332 provides for a legislative study of the flaring of natural gas.

B. **Fiscal impact sections:** *Identify and provide a brief description of the sections of the measure which have fiscal impact. Include any assumptions and comments relevant to the analysis.*

Section 1 of engrossed SB 2332 requests consideration of an interim study examining the rate of flaring of natural gas in North Dakota and other oil producing states and countries. There is no fiscal impact to this bill.

3. **State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*

A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, for each agency and fund affected. Explain the relationship between the amounts shown for expenditures and appropriations. Indicate whether the appropriation or a part of the appropriation is included in the executive budget or relates to a continuing appropriation.*

Name: Kathryn Strombeck
Agency: Office of Tax Commissioner
Telephone: 701.328.3402
Date Prepared: 02/13/2019

19.1125.01000

FISCAL NOTE
Requested by Legislative Council
01/18/2019

Bill/Resolution No.: SB 2332

1 A. **State fiscal effect:** *Identify the state fiscal effect and the fiscal effect on agency appropriations compared to funding levels and appropriations anticipated under current law.*

	2017-2019 Biennium		2019-2021 Biennium		2021-2023 Biennium	
	General Fund	Other Funds	General Fund	Other Funds	General Fund	Other Funds
Revenues				$192,000		
Expenditures						
Appropriations						

1 B. **County, city, school district and township fiscal effect:** *Identify the fiscal effect on the appropriate political subdivision.*

	2017-2019 Biennium	2019-2021 Biennium	2021-2023 Biennium
Counties		$78,000	
Cities			
School Districts			
Townships			

2 A. **Bill and fiscal impact summary:** *Provide a brief summary of the measure, including description of the provisions having fiscal impact (limited to 300 characters).*

SB 2332 imposes the oil and gas gross production tax on natural gas that is flared beyond the first year after well completion.

B. **Fiscal impact sections:** *Identify and provide a brief description of the sections of the measure which have fiscal impact. Include any assumptions and comments relevant to the analysis.*

Section 1 of SB 2332 requires producers to pay royalties and gross production tax on natural gas that is flared beyond the well's first year after completion. For this fiscal analysis, it is assumed the provisions of SB 2332 would become effective for wells drilled and completed after July 1, 2019. Therefore, FY 2020 is not affected, and the additional gross production tax would first be imposed on gas flared in FY 2021 and beyond.

3. **State fiscal effect detail:** *For information shown under state fiscal effect in 1A, please:*

A. **Revenues:** *Explain the revenue amounts. Provide detail, when appropriate, for each revenue type and fund affected and any amounts included in the executive budget.*

If enacted, SB 2332 is expected to increase gross production tax revenues by an estimated $270,000 in the 2019-21 biennium. This revenue will go to counties, as shown in 1B above, as well as to the state's oil "buckets" including Legacy Fund, and SIIF.

There may be a small individual income tax revenue gain as well. The bill requires the payment of royalties on gas flared beyond the first year. These royalties are subject to state income tax, but the amount would be fairly small, and cannot be determined.

B. **Expenditures:** *Explain the expenditure amounts. Provide detail, when appropriate, for each agency, line item, and fund affected and the number of FTE positions affected.*

C. **Appropriations:** *Explain the appropriation amounts. Provide detail, when appropriate, for each agency and fund affected. Explain the relationship between the amounts shown for expenditures and appropriations. Indicate whether the appropriation or a part of the appropriation is included in the executive budget or relates to a continuing appropriation.*

Name: Kathryn Strombeck

Agency: Office of Tax Commissioner

Telephone: 701.328.3402

Date Prepared: 01/31/2019

2019 SENATE ENERGY AND NATURAL RESOURCES COMMITTEE

SB 2332

2019 SENATE STANDING COMMITTEE MINUTES

Energy and Natural Resources Committee
Fort Lincoln Room, State Capitol

SB 2332
2/1/2019
Job Number 32000

☐ Subcommittee
☐ Conference Committee

Committee Clerk: Marne Johnson

Explanation or reason for introduction of bill/resolution:

A bill relating to restricting the flaring of gas.

Minutes: 9 Attachments

Senator Tim Mathern, District 11 (0:05-3:10) Introduced the bill, please see attachment #1.
Senator Cook: What did you say number in lost revenue was?

Senator Mathern: $121 million.

Senator Cook: Did that come from council?

Senator Mathern: No, came from advocates who received reports that go to the commission that addresses this.

Senator Cook: I'm trying to figure out the fiscal note, it's $192,000.

Senator Mathern: Part of that is a question in how it will be implemented, the other thing that's related is the infrastructure required to put in place and the time it takes for that infrastructure. This is setting the public policy, setting the taxation that would be required then moves other systems to establish the infrastructure to make it possible to avoid paying a tax when there's no product to sell.

Senator Cook: I'm confused if the $120 million is accurate then I would think this fiscal note would be somewhere around $60 million.

Chair Unruh: We'll get to the bottom of the numbers.

Scott Skokos, Executive Director, Dakota Resource Council (6:50-10:50) Testified in support, please see attachments #2-4. In North Dakota there are several wells that have been flaring for 5-10 years. One in particular is the Mollet well in the north west portion of the state. Essentially this Mollet well has been flaring for a decade.

Senator Schaible: I believe that a lot of oil companies do want to not flare, but a lot of time they are prevented from connecting to a line by other conditions beyond their control. If they can't get an easement to get a gathering line to go through there. Is it fair to penalize them for things beyond their control?

Scott Skokos: At this point, the amount of gas being flared, this provides another tool that can be used to give companies an incentive to capture onto a pipeline. As the Bakken evolves, that's going to be less and less. This is another tool to stop these bad actors that have been flaring for almost a decade without being penalized in any way.

Senator Schaible: I agree with that if it's possible for the company to do that, I think they should, and I believe that they are. Because of this, we might force taxes on a company that for conditions beyond their control they can't capture.

Scott Skokos: I would say we shouldn't be permitting oil and gas wells when we know very well that we're not going to be able to capture the gas.

Vice-Chair Kreun: Does this bill supersede the federal regulations on federal land?

Scott Skokos: No, this only applies to public lands.

Vice-Chair Kreun: In your calculations, did you separate those out?

Scott Skokos: I did not. This is specifically from the numbers that were in the director's report.

Vice-Chair Kreun: So these numbers may not be accurate.

Scott Skokos: Yes, correct.

Andrew Alexis Varvel, Bismarck Citizen (16:47-20:20) Testified in support, please see attachment #5.

Senator Cook: Are you aware of the rate of flaring gas is in North Dakota vs the Fort Berthold Reservation?

Andrew Alexis Varvel I do not know.

Tracy Potter, Bismarck Citizen (22:40) Senator Mathern been in the state senate for quite some time. He has beaten his head against many walls, he's recognized there's no sense in bringing bills that have no chance of passage. He's presented you with something that is extremely moderate, nobody likes waste, no one wants flaring, we all recognize the downside of the flaring. It's taking a resource that could be a resource for our grandchildren and throwing it up into the air and igniting it so that it's contributing to pollution. It's not like this is an impossible thing to do. My brother is an oil man in Texas and Louisiana, he's amazed that North Dakota flares as much as it does. In my search for whether or not Texas law, and Texas results are different from North Dakota's. I found a comparison of Texas and Nigeria. Officially about 18% of their oil production leads to natural gas being flared off. Texas flares 0.5% of its gas. They use 95.5%. We flare it as opposed to letting it go up. If Texas can do

it, and Texas is not an environmentally noted friendly state. If they can do it, why can't we do it? I rise in support of this bill, but I'm not really happy with it. My choice would be to tell the oil industry no, what's the rush? Don't produce oil without being able to capture the gas. That oil and gas in the ground is as useful to our grandchildren as the money in the legacy fund. We don't have to harm our environment, and our landowners and state government because we're in a rush to produce the oil. You saw the results of some of the rush, man camps in Williston, and people sleeping in the city park. We were too fast. This is an opportunity in a mature industry, still producing, hit our chance to do it right. We're not going to regulate it out of business, but we're going to provide that financial incentive that turns the numbers a little bit. That's a moderate and sensible bill.

Chair Unruh: I appreciate you bringing up flaring rates here and other states, we've not gotten that, what they are now and what they've done over time. If you don't have that information hopefully we can get it.

Tracy Potter I do not. I recall the industrial commission meeting about 2 years ago when they were attempting to loosen the cap, but those numbers have left my head.

Vice-Chair Kreun: In your calculations, if the market doesn't demand the same as in Texas and we reduce the oil drilling and pumping, have you figured out the calculations what we're going to lose in those royalties? you've only talked about the positive. If we can't drill, that's what creates the gas. You're going to reduce the oil production and what's the balance?

Tracy Potter: We're not going to reduce our production today, it's in place, unlikely to cap it because you're now paying on the flared. For the future, again, the answer is take your time, get the easements, know that it's going to be captured. The oil is a resource, it's a onetime harvest. We don't have to be in a hurry, that need does not exist for us.

Chair Unruh: Do you think that's in the best interest of mineral rights owners and royalty owners?

Tracy Potter: I believe it's in the state's best interest that it captures all of it. Royalties depend on whether the owner is in a hurry to receive their payments or whether it's better to get more payments over time.

Chair Unruh: Return value of money.

Vice-Chair Kreun: You don't think the open market has anything to do with this, you think we can control this oil drilling, control the gas sales?

Tracy Potter: It certainly was possible to slow drilling, that has to do with the market, that has to do with permits. We had this exact same thing in the 70s, when Governor Link said we're putting a slowdown on our coal industry. North Dakota had been designated as energy sacrifice area, and we're going to have 40 coal plants. He slowed down the water permits, he slowed it down, and it brought rational development. That ship left long ago, the market forces, that's what this bill gets at, not regulation, but market forces. Just changing the calculations in the market, so it's better to save the gas and use it, than waste the gas.

Nicole Donague, Field Organizer, Dakota Resource Council (32:50) Testified in support, on behalf of Lisa DeVille. Please see attachment #6. The gas capture rate for the state of North Dakota as of January 15, 2019 was 79%, statewide Bakken 80%, Fort Berthold Indian Reservation 73%. We could do a lot better, and I believe this bill would increase that incentive to capture natural gas.

Vice-Chair Kreun: A little bit ago, I asked if this bill would supersede the laws on the federal lands, so how do we control that with this bill that's on the federal lands?

Nicole Donague: There would be no control on federal lands through this bill, but there is the oil and gas tax agreement that the state has with Fort Berthold Indian Reservation, and that would.

Vice-Chair Kreun: But we can't control the flaring.

Nicole Donague: Fee patent land is under state jurisdiction.

Vice-Chair Kreun: This bill wouldn't supersede federal requirements.

Nicole Donague: That I don't know the answer to. There is the (inaudible) that has been revised over the past year and a half would be the federal standard.

Vice-Chair Kreun: The other person from Dakota Resources indicated it would not.

Ron Ness, President, North Dakota Petroleum Council (36:40) Testified in opposition, please see attachment # 7. I'm going to use an analogy: grain harvest business. My family owned a grain elevator and when everybody decided to harvest the same week, my dad would write full on the elevator windows. As an oil producer, what are your options. The farmer could shut down the combine, the farmer could pile it on the ground, or they can complain. In this case, the elevator manager is waiting on the rail car trains. In the oil and gas business, when you're a producer you sign a contract with a midstream company, you contract your gas. You can't store gas, the oil you produce you can ship, move by truck; your gas has no storage ability. By flaring it you create a much safer environmentally friendly option than venting. That mid-stream company has to build a gas processing plant, and pipeline to come get your gas. Some reference about some of the older wells in North Dakota, they are across remote parts, typically non-Bakken wells that maybe have never been connected. But it costs about a million dollars a mile to go get that gas. How are you going to determine the value of gas when I can't sell it? Everybody has a different contract for their gas. There are a lot of things in this process. The Industrial Commission raises the bar with these targets. And there's a lot of consternation about the targets, the reality is the producers are restricting and managing their gas every single day, waiting for the gas processer to construct a new plant. Contrary to previous speakers, we can wait, but there are tens of thousands of mineral owners out there that don't want to wait. The state of North Dakota wants more tax revenues. The Bureau of Land Management has plans to transfer control over to the Three Affiliated Tribes; right now the industry agrees to voluntary compliance under the state's jurisdiction for both the tribal lands and the federal lands; we follow the state regulation, just because the state has the permitting authority. Once that happens the Tribe will assume responsibility over that gas capture requirements on the reservation that will be taken out of equation. The numbers will look different. This policy is on top of what the

Industrial Commission is doing. Earlier this month when they released their report: self-restricted barrels in the month of November were about 99,000 barrels a day. We think that may be light. As an operator, you do not want the state to restrict your production. That's a bad message to your shareholders, Wall Street, and investment. We need the investment of the mid-stream companies $18 billion to date, of just building gas plants. $3 billion going into the ground. Let's get this gas captured, but you have to allow the economy to attract the dollars. MDU, WBI announced they're going to spend $220 million to connect a 67-mile pipeline that's just one of the connectors to allow more gas to flow across the various areas. There are tremendous challenges. In 2014, we put forth a task force and analyzed all the production and all the capture and what we would need. Then the midstream industry took that information and began building it. Here's what happened, the technology in the Bakken has changed so much that the individual well production has dramatically increased. It's on these charts that I've shown you. The elevator expanded, but the corn production grew. Most of these wells are connected. There are very few that aren't connected, the problem is, now you've got gas plant as soon as its online; it's full. We have a bunch of gas plants coming on line later this year. But $18 billion; don't say we aren't trying. Producers are making those choices based on what they can sell. They're at the mercy of those midstream companies. We can talk about slowing things down, but that's not how economies work. You don't get more hotels housing and things you need by saying we're going to slow things down. The royalty owners don't like it. The reality is, slowing down discourages investment. There's nothing obligating these midstream companies from putting their capital in the Bakken. It's the pressure from producers to invest. The Industrial Commission has found the right lever to push this would be an additional tax on top; having both is essentially duplicative of the regulatory process that's in place. If you look at the charts presented, these are from the North Dakota Pipeline Authority, you can see the year over year advances in the production. This is a challenge and opportunity. I think the opportunity to add value is real but a lot of those people were spooked in 2014. Now you can see that the productivity has grown; over time attract some more chemical industry. We're seeing those discussions again because they see opportunity. At the end of the day, looking at the Bakken versus other plate, the Bakken is an oil plate, we all know it. You are trading $60 a barrel for a barrel of oil for what gas to the producer has become kind of a challenge. There's not a lot left by the time you buy off the lease, buy your way into this pipeline, at times you've got a negative situation. The fact that we're still able to attract the incentive and investment to build infrastructure is key. There's not the value on a barrel of natural gas like there is on a barrel of oil. That's part of what the Industrial Commission is trying to do. They've incentivized you by restricting your oil to make you go get your gas. It is working, it's Monday morning meeting number one. They do not want to be found in violation.

One other thing, other states if you're a pure gas plate there's no discussion but I challenge anybody to go find the actual number of what's being flared in Texas. North Dakota has the best open transparent, you can determine what was produced out of every well in the state. That info is really hard to get in other states. That's a credit to the Legislature and the Industrial Commission and others that have developed this incredibly open system in which we track. This is not available in other states. This has plagued oil and gas across the world got to get enough infrastructure. Producers want to build a fridge big enough for Thanksgiving, every day. They try to build it to size, so it's full every day. In the Bakken you've got big decline curves. If you stop drilling, the declines happen rapidly. Those wells will keep producing, but at declining rates. Bringing on new wells every month is what is growing our production.

I don't think anybody in this room is wrong. The reality is we've got to build infrastructure, it will happen. The challenge on the Three Affiliated tribes is something we work on all the time. At one point we were really improving the gas capture rate on the reservation, and now all the systems are full. So wells are put on a rolling blackout notice. This is a fiercely competitive business. Gas capture is running the Bakken right now.

Joel Brown, Watford City, Mineral Tracker (52:40) Testified in opposition, please see attachment #8. I help owners understand and utilize their assets. My clientele own mineral rights in Western North Dakota. SB 2332 would propose to force oil companies to pay royalties and production taxes on gas that is currently being flared. You can see in the figures that in 2018 the amount of total flared gas January to November, was 16.7% The amount that would have been penalized with the restriction would have been 7.4% of the gas that was produced in 2018. On its surface, the intended beneficiaries of this bill would be the state and royalty owners. To those not familiar with the intricacies of the Bakken plate, it would seem to be common sense that taxing and forcing oil companies to pay for gas that they elect to flare would be beneficial to the recipients. However, the unintended consequence of this bill would be the deterrence of drilling in marginally economic areas where gas infrastructures does not currently exist, also known as the fringe. The fact is that natural gas at the price it currently is, is not worth the infrastructure cost necessary to get it to market; especially in fringe areas. I have seen many situations in which mineral owners entire gas income is being deducted because of the high infrastructure cost to get it to market. The director of the Department of Mineral Resources, Lynn Helms recently stated that the industry is estimating that their self-imposed reduction in oil production due to the current flaring regulations is 99,000 barrels per day. On the bottom table of the figure provided; that would be the equivalent of $4.5 million per day in gross revenue assuming an average royalty of 3/16 that would be $750,000 per day in royalties and $450,000 per day in production taxes. The estimated reduction in revenues to royalty owners because of these self-imposed deduction is about $274 million and $162 million less in production taxes to the state. These self-imposed reductions are due to the current regulations on flaring and SB 2332 would certainly increase these self-imposed reductions. To put the assumed benefit in perspective, I've run the numbers, provided in the second table, of how much could the state expect to gain from that 7.4% of gas that was flared and how much could royalty owners stand to gain. Totaling up over the course of a year, we see that number for royalty owners is close to $18 million; and the number for gross production tax on gas taxed at the 5.5 cents for the first half of 2018, 7.05 cents for the second half; that amount is$4 million total in added taxes to the state. My personal interest today is to ensure that mineral owners realize the best possible outcome for their oil and gas assets. While SB 2332 would benefit a small number of mineral owners with that added $18 million; those figure pale in comparison to the amount of revenues to mineral owners and taxes to the state that are being missed out on because of self-imposed reductions that currently exist. On the macro perspective the negative effects on the larger group of mineral owners would far outweigh that possible gain.

Bruce Bale, Mandan Citizen (59:29) Testified in opposition, pleased see attachment #9 for remarks.

No neutral agency testimony.

Chair Unruh: Closed the public hearing.

2019 SENATE STANDING COMMITTEE MINUTES

Energy and Natural Resources Committee
Fort Lincoln Room, State Capitol

SB 2332
2/7/2019
Job Number 32364

☐ Subcommittee
☐ Conference Committee

Committee Clerk: Marne Johnson

Explanation or reason for introduction of bill/resolution:

A bill relating to restricting the flaring of gas.

Minutes: 1 Attachment

Chair Unruh: This was the issue we heard regarding flaring that would require producers to pay royalties and taxes on gas that is flared beyond one year. Somebody had information for us, the Mineral Tracker testifier stated that 7.4% potentially penalized gas for 2018.

Senator Piepkorn: How would that translate into dollars for mineral owners?

Chair Unruh: The gain from that 7.4% of gas would total the number for royalty owners was $18 million and the gross production tax was $4 million in additional revenue for the year. I thought it was good for us to have that testimony, to be able to put some real numbers to what we're dealing with here. We've been dealing with this flaring issue since I've been in the legislature. It still is a very serious concern. But I think what the Industrial Commission has done over the past few years has slowed development, and has actually not done any favors for royalty payment receivers. As some of these wells are no longer flaring they lose production on gas and on oil, those results are not seen until the end of the life of the well. They are not receiving those, they don't get that additional money until the end of the life of the well. I think we've come a long way, the Industrial Commission has been effective, we'll see those numbers continue to go down as we develop more of our infrastructure, we had a hearing in Tax yesterday, we've got higher flaring rates on our Fort Berthold reservation, and we're dealing with some of the taxation issues there to try and help lower those rates because we need to get that infrastructure in the ground, and we're continuing to catch up with that each and every day, with cooperation with the state and industry, I feel like we're really heading in the right direction and doing a very good job, and at time penalizing people it's tough to penalize, I have a lot of sympathy for those royalty owners. I don't think this gets us further in that direction, I think what the Industrial Commission has going is what gets us there.

Senator Cook: I think the testimony we heard yesterday from that midstream company about what could happen on that Fort Berthold reservation, that is where the highest percentage of flaring is, and midstream companies have been reluctant to get the capital it takes to put in

the pipelines and the plants to reduces that because of the uncertainty. If we make the adjustments that we're talking about make there will be certainty and more likely they'll go on the reservation with the necessary investment to reduce the flaring.

Senator Piepkorn: Would this be an appropriate time to introduce this amendment? With the possibility that this bill would not pass, the crafters and Senator Mathern had this amendment, which would be a hog house amendment, **please see attachment #1.** (6:25-7:15) So I put forth that amendment and **move to adopt amendment.**
Senator Schaible: I second.

Chair Unruh: Thank you for bringing this amendment, I appreciate everything the Industrial Commission has done on flaring since the 2014 order that is mentioned, but I do think that it's appropriate for the legislature to step in now at this after so much progress has been made, to take a look at that again, see if there is something we do need to do.

Senator Schaible: Senator Unruh and I serve on the Energy Council on a national scale, the last meeting we had, we had a good discussion about world production in oil and gas. One of the comments made, if we're serious about cutting pollution and carbon capture, it was mentioned that what we do as counties is irrelevant, most of the damage is coming from third world countries who are actually burning coal. It was very eye opening, seeing we do all these things that cost a lot of money, and it's irrelevant from what's going on worldwide scale what's going on in third world companies. If we're going to make an effort to change that, that's where the change has to be made, until we get a handle on that, it's the third world countries we have to help develop, whether it's burning wood, cooking on a stove or just burning coal. That's the real problem; that was really enlightening.

Chair Unruh: Without the same environmental controls and requirements that we have here in the United States, fossil fuels and even products like wood can really cause some issues.

Senator Piepkorn: We have developed the technology to extract the oil, that produces the gas, to capture the gas, I would just say in response, there is leading according to example. There's not much we can do about what's going on in foreign countries, but we can't withdraw from engaging in dialogue and discussion with those countries, I think a study like this would indicate leadership in this, at least looking at it. I understand the arguments about coal mines in China, I don't think we should take the attitude that this is so little it doesn't make a difference. I think it's significant, and it's a two-part deal. One of the goals of the original bill is to reduce flaring, another one is the legitimate deal of mineral owners who are losing out. Maybe the $4 million isn't significant. The Industrial Commission, those rules have made some progress, I think there's value in showing the skeptics that we're doing alright, we're making progress, while simultaneously showing us where we can make some improvements.

Vice-Chair Kreun: An observation from six years ago, I spent my time in another body, this exact question came up, and one of the observations was to reduce the drilling of oil, reduce the permits, cut all this particular stuff to reduce these issues. At that point in time, but in order to reduce that amount, take a look at the economic issue and the growth in this industry, set that aside, we had people that owned royalties in oil saying 'what right do you have to reduce the oil drilling to cut my income?' These people were depending on that, they drilled a well, and then they capped it. We as a government are going to say, you cannot go forward

with private sector industry and develop and let me earn my royalties. That was 6 years ago. They were lined up out the door, indicating don't cut my royalties, I'm 87 years old, if I wait 10 years I'm not going to get dime. Here we go again trying to cut back private sector development by reducing this. If you take a look, if the federal government and our last administration would have followed our lead on the federal lands, we'd have a lot less flaring at this point in time. I don't think, going back to doing this is going to make any difference in any portion when China adds one coal generator per month in the last two years. In order for us to be the leader, we still have to be an economic leader as well. Economics today do not choke what you have growing. I understand, I'm not saying we don't have a climate change issue that all comes into play, but we've spent billions and haven't been successful because the miniscule amount that is successful doesn't make a difference. I've been through this three times now, it still comes out to be the same process. I don't think I can support this. I asked the question during testimony, what is the economic downturn? We may lose $100 million in royalties to these other people. Nobody's factored that in there. Because oil is where the majority of our economic issue is traveling. We might save $4 million in that respect, but we could lose $100 million, nobody said anything about that. Until they can determine that, I simply don't agree with how they showed this in general.

Senator Piepkorn: I understand your argument; I don't think that has anything to do with the amendment. If anything this amendment would clarify that issue. I don't think there is anything in this study that indicates that anybody is trying to cut back on the oil business or anything that comes out of this will necessarily dictate that. It might just confirm your point of view.

Vice-Chair Kreun: We have the Industrial Commission, the PSC, we had the oil industry that is looking at this every single day. that's what they talk about, what are we doing, where can we spend our capital? What is the best method? Some of the testimony that we got that says there's a gas plant 2 miles away from this flaring well, but they don't have a contract with that particular gas plant, it's a long way away. These individuals do this every day I don't know what this will cost us in a study, to gain what? We have this information at our fingertips. I'm sure the oil and gas industry can produce exactly what we're doing here on a national basis. Until the federal government gets on board with our stricter requirements on the federal lands, I can't support it either. As soon as they get on board, and they want to show leadership, I will help them do that.

A voice vote was taken.
Amendment passes.

Senator Piepkorn: I move a Do Pass As Amended.
Senator Schaible: I second.

A roll call vote was taken.
Motion fails 3-3-0.

Senator Cook: I move a Do Not Pass As Amended.
Senator Roers: I second.

A roll call vote was taken.
Motion passes 4-2-0.
Vice-Chair Kreun will carry.

19.1125.01001
Title.02000

Prepared by the Legislative Council staff for
Senator Mathern
February 5, 2019

8L
1501

PROPOSED AMENDMENTS TO SENATE BILL NO. 2332

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to provide for a legislative management study of flaring rates and the flaring of gas.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. LEGISLATIVE MANAGEMENT STUDY - FLARING RATES. During the 2019-20 interim, the legislative management shall consider studying flaring rates and the flaring of gas. The study must include a comprehensive comparison of flaring rates in all oil and gas-producing states in the United States, flaring rates on federal and tribal lands, and flaring rates in foreign countries producing oil and gas. The study must include an overview and an evaluation of public policies within states, the federal government, tribal nations, and foreign governments aimed at reducing flaring and methane emissions to provide guidance on how the North Dakota industrial commission could improve the 2014 North Dakota Industrial Commission Order 24665 Policy Version 041718, in an effort to capture more gas in the future. The legislative management shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the sixty-seventh legislative assembly."

Renumber accordingly

Date: 2/1
Roll Call Vote #: 1

2019 SENATE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. 2332

Senate Energy and Natural Resources Committee

☐ Subcommittee

Amendment LC# or Description: 19.1125.01001

Recommendation:
☒ Adopt Amendment
☐ Do Pass ☐ Do Not Pass ☐ Without Committee Recommendation
☐ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions: ☐ Reconsider ☐

Motion Made By Sen. Piepkorn Seconded By Sen. Schaible

Senators	Yes	No	Senators	Yes	No
Senator Jessica Unruh			Senator Merrill Piepkorn		
Senator Curt Kreun					
Senator Donald Schaible					
Senator Dwight Cook					
Senator Jim Roers					

Total (Yes) _____ No _____

Absent _____

Floor Assignment _____

If the vote is on an amendment, briefly indicate intent:

Voice vote

Motion Passes

Date: 2/7
Roll Call Vote #: 2

2019 SENATE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. 2332

Senate Energy and Natural Resources Committee

☐ Subcommittee

Amendment LC# or Description: 19.1125.01001

Recommendation:
☐ Adopt Amendment
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☒ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions: ☐ Reconsider ☐

Motion Made By Sen. Piepkorn Seconded By Sen. Schaible

Senators	Yes	No	Senators	Yes	No
Senator Jessica Unruh	X		Senator Merrill Piepkorn	X	
Senator Curt Kreun		X			
Senator Donald Schaible	X				
Senator Dwight Cook		X			
Senator Jim Roers		X			

Total (Yes) 3 No 3

Absent 0

Floor Assignment

If the vote is on an amendment, briefly indicate intent:

Date: 2/7
Roll Call Vote #: 3

2019 SENATE STANDING COMMITTEE
ROLL CALL VOTES
BILL/RESOLUTION NO. 2332

Senate Energy and Natural Resources Committee

☐ Subcommittee

Amendment LC# or Description: 19.1125.01001

Recommendation:
☐ Adopt Amendment
☐ Do Pass ☒ Do Not Pass ☐ Without Committee Recommendation
☒ As Amended ☐ Rerefer to Appropriations
☐ Place on Consent Calendar

Other Actions: ☐ Reconsider ☐

Motion Made By Sen. Cook Seconded By Sen. Roers

Senators	Yes	No	Senators	Yes	No
Senator Jessica Unruh		X	Senator Merrill Piepkorn		X
Senator Curt Kreun	X				
Senator Donald Schaible	X				
Senator Dwight Cook	X				
Senator Jim Roers	X				

Total (Yes) 4 No 2

Absent 0

Floor Assignment Sen. Kreun

If the vote is on an amendment, briefly indicate intent:

REPORT OF STANDING COMMITTEE

SB 2332: Energy and Natural Resources Committee (Sen. Unruh, Chairman) recommends **AMENDMENTS AS FOLLOWS** and when so amended, recommends **DO NOT PASS** (4 YEAS, 2 NAYS, 0 ABSENT AND NOT VOTING). SB 2332 was placed on the Sixth order on the calendar.

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to provide for a legislative management study of flaring rates and the flaring of gas.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. LEGISLATIVE MANAGEMENT STUDY - FLARING RATES. During the 2019-20 interim, the legislative management shall consider studying flaring rates and the flaring of gas. The study must include a comprehensive comparison of flaring rates in all oil and gas-producing states in the United States, flaring rates on federal and tribal lands, and flaring rates in foreign countries producing oil and gas. The study must include an overview and an evaluation of public policies within states, the federal government, tribal nations, and foreign governments aimed at reducing flaring and methane emissions to provide guidance on how the North Dakota industrial commission could improve the 2014 North Dakota Industrial Commission Order 24665 Policy Version 041718, in an effort to capture more gas in the future. The legislative management shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the sixty-seventh legislative assembly."

Renumber accordingly

2019 TESTIMONY

SB 2332

SB 2332
2.1.19
#1
Pg. 1

Senate Energy and Natural Resources Committee

February 1, 2019 Senator Tim Mathern

Madam Chairman Unruh and Members of the Energy and Natural Resources Committee

My name is Tim Mathern. I am sponsor of SB 2332, a bill to require payment of the gross production tax on gas flared beyond one year of the opening of an oil well. I believe passage of this bill will increase the use and safe collection of natural gas in North Dakota for the benefit of our people and our environment. There are other people here to testify so I will limit my comments to two points.

Natural gas flaring is economically and environmentally wasteful. Capturing and utilizing flared natural gas is a common-sense strategy that is good for economic growth, creating jobs and avoiding waste.

- In 2018 the total daily flaring rate was 527 million cubic feet, this means that more than $1.9 billion worth of gas was flared in 2018. This also means that royalty owners lost out on approximately $347 million in royalty payments. This means that North Dakota taxpayers lost out on approximately $121 million dollars in taxes that could have been collected from flared gas.
- Flaring natural gas wastes energy that can be used to power homes and businesses.
- Flaring impacts our air quality and releases harmful greenhouse gases into the atmosphere.

Technology is available and affordable. Affordable technologies are available today to capture and use this important energy resource. Note these examples;

- Conversion to fertilizer, use for electric grid power and site power, NGL recovery, gas to liquids.

Thank you for the attention you will be giving to the presenters coming after me. I ask for your Do Pass recommendation to the full Senate.

Thank you for your consideration.

SB 2332
2.1.19
#2
Pg 1

Testimony of Dakota Resource Council
Senate Bill 2332
February 1, 2019

Chair and members of the committee, my name is Scott Skokos and I am the Executive Director of Dakota Resource Council. I stand here today in support of Senate Bill 2332.

Throughout DRC's 40-year history, DRC members, many whom are landowners and/or mineral owners in the oil patch, have worked to reduce the impacts of oil and gas development to make sure oil and gas is paying its fair share of taxes and royalties. These landowners and mineral owners make up a large portion of our membership in Western North Dakota. When oil and gas companies flare natural gas without paying taxes and royalties, it not only hurts our members, it also hurts North Dakota taxpayers. This is a one-time harvest after all.

Senate Bill 2332 is a moderate approach aimed at getting the oil and gas industry pay taxes and royalties on flared gas. It should be noted that the bill still allows companies to flare for one-year prior to being forced to pay taxes and royalties. For this reason we think this bill is more than fair.

Flaring in North Dakota is excessive compared to most oil and gas plays and it is increasing, not decreasing. Because we are not imposing taxes and royalties on flared gas, taxpayers, tribes, and mineral owners are losing out on a significant amount of money.

In 2018, oil and gas operators wasted an average of 527 million cubic feet of gas per day by flaring. We did some calculations on the amount of royalties lost and the amount of taxes that could have been collected if royalties and taxes were imposed on the industry in 2018. In our calculations we used the following assumptions:

- Price of gas is based on the average Henry Hub Spot Price for 2018 (in 2018 that price was $3.17/mcf)
- Average Royalty we used was 18%
- Gas Production Tax Rate is the average for 2018, which is $0.063/mcf

- Total Gas Flared is 527 million cubic feet x 365 days (then converted to mcf) = 609,765,350 mcf

Our calculations show that flaring has cost taxpayers, tribal members, and royalty owners hundreds of millions dollars per year, which is why we think it is more than fair that landowners start getting paid for flared gas. The total value of all gas flared in 2018 was approximately $1.9 billion; the total royalties lost were approximately $347 million; and the total taxes lost were approximately $121 million. It can be extrapolated that Fort Berthold is losing out on more than $100 million in royalties, and between $20-30 million in taxes, if we assume the tribe produces approximately 30 percent of the natural gas in North Dakota. This is an incredible amount of money that is not going into our economy or state coffers.

During our discussions regarding this bill we were made aware that a possible unintended consequence of this legislation is that oil and gas companies would in some cases rather pay taxes and royalties than invest in gas capture infrastructure, if given the option. This may be the case. As a result, we have offered an amendment, which imposes increased production taxes for companies that are flaring for more than 2 years. The amendment increases taxes to 25% above the state rate in year three of flaring, then by 50% in year four, and then by 100% in year five. This, in our view, would help address this unintended consequence. In the amendment we also made it clear that this bill should apply to all oil and gas wells, not just those completed after the effective date of this bill.

In conclusion, DRC supports SB 2332 because it ensures mineral owners and taxpayers are paid for unnecessarily wasted natural gas. The bill puts a monetary value on flaring in the hopes that it will reduce the practice (by reducing flaring an ancillary benefit of improving air quality could be achieved), it will help increase tax revenue for the state to fund the government. Lastly, this bill will further incentivize the oil and gas industry to meet the gas capture goals set by the North Dakota Industrial Commission.

SB 2332
2.1.19
#3
pg.1

19.1125.01000

Proposed Amendment

Sixty-sixth
Legislative Assembly
of North Dakota

SENATE BILL NO. 2332

Introduced by

Senators Mathern, Dotzenrod, Heckaman, Oban

Representatives Boschee, Jones

A BILL for an Act to amend and reenact section 38-08-06.4 of the North Dakota Century Code, relating to restricting the flaring of gas.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. AMENDMENT. Section 38-08-06.4 of the North Dakota Century Code is amended and reenacted as follows:

38-08-06.4. Flaring of gas restricted - Imposition of tax - Payment of royalties - Industrial commission authority.

1. As permitted under rules of the industrial commission, gas produced with crude oil from an oil well may be flared during a one-year period from the date of first production from the well.
2. After the time period in subsection 1, flaring of gas from the well must cease and the well must be:
   a. Capped;
   b. Connected to a gas gathering line;
   c. Equipped with an electrical generator that consumes at least seventy-five percent of the gas from the well;
   d. Equipped with a system that intakes at least seventy-five percent of the gas and natural gas liquids volume from the well for beneficial consumption by means of compression to liquid for use as fuel, transport to a processing facility, production of petrochemicals or fertilizer, conversion to liquid fuels, separating and collecting over fifty percent of the propane and heavier hydrocarbons; or
   e. Equipped with other value-added processes as approved by the industrial commission which reduce the volume or intensity of the flare by more than sixty percent.

SB 2332
2.1.19
#3
Pg. 2

3. An electrical generator and its attachment units to produce electricity from gas and a collection system described in subdivision d of subsection 2 must be considered to be personal property for all purposes.

4. For a well operated in violation of this section, the producer shall pay royalties to royalty owners upon the value of the flared gas and shall also pay gross production tax on the flared gas at the rate imposed under section 57-51-02.2.

5. The industrial commission ~~may~~shall enforce this section and, for each well operator found to be in violation of this section, ~~may~~shall determine the value of flared gas for purposes of payment of royalties under this section and its determination is final.

6. A producer may obtain an exemption from this section from the industrial commission ~~upon application that shows to the satisfaction of the industrial commission that connection of the well to a natural gas gathering line is economically infeasible at the time of the application or in the foreseeable future or that a market for the gas is not available and that equipping the well with an electrical generator to produce electricity from gas or employing a collection system described in subdivision d of subsection 2 is economically infeasible~~to continue flaring beyond one year, but the producer shall pay royalties and gross production tax on the flared gas at the rate imposed under section 57-51-02.2 on the value of flared gas at the current market value of raw natural gas as determined by the industrial commission. Royalties and taxes shall be collected on all oil wells flaring beyond their first year of production. This includes wells completed prior to this amendment. To prevent operators from flaring in perpetuity , an additional tax penalty shall be imposed after year two of flaring. The penalty will be imposed in the following manner: year 3 of flaring: 25% tax penalty above production tax rate; year 4 of flaring: 50% tax penalty above production tax rate; year 5-year 99: 100% tax penalty above production tax rate.

SB 2332
2.1.19
#4
Pg. 1

Case Examples:

The case examples below will provide on the ground justification for strong waste minimization plans, consistent enforcement of production curtailments when companies exceed flaring volume limits, corroborate why flaring volumes should be enforced on a well-by-well basis, and why North Dakota should not get a variance with regard to the BLM rule. Because flaring is so prevalent in the state of North Dakota, we decided to provide two examples of out of control flaring, that still are occurring despite the flaring policy passed by North Dakota in September 2014. Case study one examines the Buffalo Pad in Mandaree North Dakota on the Fort Berthold Reservation. Case study one will highlight the need for strong waste minimization plans, why flaring volume limits need to be enforced well-by-well, and the why the BLM should have authority to curtail production if a company flares over the limit consistently. Case example two is the Mollet well located near Tioga, ND. Case example two will highlight why North Dakota should not get a variance with regard to the BLM rule. At the end of this section we have created two figures in order to give a visual depiction of each case example. Figure 1 is related to the Buffalo Pad and Figure 2 is related to the Mollet well.

Case Example 1: Buffalo Pad (Mandaree, ND Fort Berthold)

At present oil and gas wells are flaring in some cases continuously on public and tribal lands. In order to illustrate this problem we investigated a leasehold on the Fort Berthold Indian Reservation. For the purposes of this section we will call this leasehold the "Buffalo Pad". Buffalo Pad has ten producing wells, five of which were drilled in February of 2013, and five of which were drilled in September 2013[1]. The reason we decided to highlight Buffalo Pad was because members of the group Dakota Resource Council who live on Fort Berthold gave us the location of a well pad that they said was flaring since it was drilled.

By searching through production data on the North Dakota Department of Mineral Resources website corresponding to the wells on the leasehold we were able to ascertain what months wells on the leasehold were flaring and how much they were flaring. The owner of the Buffalo Pad began drilling for oil and gas on the Buffalo Pad in February 2013 when the first five wells were drilled. Subsequently five more wells were drilled in September 2013. There is production data for the Buffalo Pad from February 2013-February 2016, which means the Buffalo Pad has 36 months of available production data. By searching through the production data for the Buffalo Pad we discovered that since the leasehold was first drilled in February 2013 that the well had only one month where all the wells on the leasehold were capturing 100 percent of their associated gas, that month was November 2014. You can see this by viewing figure 1 in the appendix below. This means that flaring has occurred on at least one well on the leasehold for the other 35 of 36 months in which the Buffalo Pad has been producing oil and gas. We also found that flaring occurred continuously on at least one wells on the

[1] North Dakota Industrial Commission Well Numbers 23093-23102 Production History Data, also see figure 1

SB 2332
2.1.19
#4
Pg.2

Figure 5
Open Records Request to North Dakota Industrial Commission regarding production curtailments.

Scott Skokos
Regional Organizer
sskokos@worc.org
406-252-9672

Lynn Helms
ND Industrial Commission
Oil and Gas Division
600 E. Boulevard Ave.
Bismarck, ND 58505

RE: Open Records Request

Dear Mr. Helms,

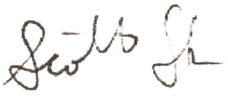
I am writing pursuant to N.D.C.C. § 44-04-18 to request copies of the following records from the North Dakota Industrial Commission, Department of Mineral Resources, Oil and Gas Division.

- The following companies have been curtailed at some point in the past 4 months per the Bismarck Tribune article "Five Companies Face Restrictions After Flaring Too Much Gas" (April 2, 2015):

    1. Oxy, 9 wells
    2. Whiting, 3 wells
    3. Emerald Oil, 10 wells
    4. Abraxas Petroleum, 3 wells
    5. QEP, 6 wells
    6. Enerplus, 2 wells

As a result, I would like records of all ADPs for wells list above that received production curtailments because the operators flared above the thresholds/goals set forth in NDIC order #24665.

Best Regards,



SB 2332
2.1.19
#4
Pg.3

Emerald Oil Inc.	28171	33-053-05831	100
Enerplus Resources USA	20783	33-053-03592	62
Enerplus Resources USA	24752	33-053-04716	47
Enerplus Resources USA	18809	33-025-01066	86
Enerplus Resources USA	25142	33-025-02085	41
Oxy USA Inc.	22543	33-025-01644	67
Oxy USA Inc.	25708	33-025-02172	84
Oxy USA Inc.	26099	33-025-02226	42
Oxy USA Inc.	26674	33-025-02308	79
Oxy USA Inc.	26746	33-025-02326	47
Oxy USA Inc.	27523	33-053-02446	82
Oxy USA Inc.	27524	33-025-02447	56
Oxy USA Inc.	27632	33-025-02461	92
Oxy USA Inc.	27633	33-025-03462	90

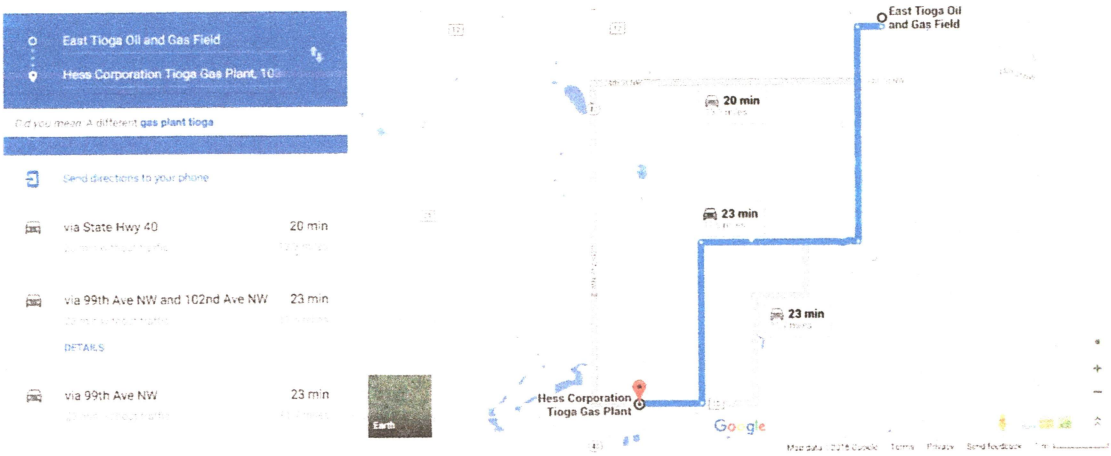
SB 2332
2.1.19
#4
Pg. 4

Figure 4
Wells curtailed by North Dakota Industrial Commission(NDIC) in 2015 due to wells flaring in excess of NDIC Order # 24665

Company	North Dakota Well #	API #	Percent Flared Jan. 2015
QEP	20591	33-053-03529	80
QEP	21437	33-053-03748	91
QEP	24398	33-053-01990	43
QEP	24399	33-025-01991	100
QEP	24400	33-025-01992	44
QEP	24401	33-025-01993	41
Abraxas Petro. Company	23624	33-053-04338	49
Abraxas Petro. Company	25606	33-053-04989	61
Abraxas Petro. Company	25608	33-053-04991	49
Emerald Oil Inc.	25648	33-053-05002	30
Emerald Oil Inc.	26218	33-053-05209	43
Emerald Oil Inc.	26261	33-053-05232	90
Emerald Oil Inc.	26262	33-053-05233	64
Emerald Oil Inc.	26263	33-053-05234	47
Emerald Oil Inc.	26270	33-053-05238	100
Emerald Oil Inc.	26271	33-053-05239	100
Emerald Oil Inc.	26665	33-053-05361	100
Emerald Oil Inc.	26668	33-053-05364	100
Emerald Oil Inc.	26715	33-053-05378	100
Emerald Oil Inc.	26716	33-053-05379	100
Emerald Oil Inc.	26717	33-053-05380	100
Emerald Oil Inc.	27265	33-053-05554	100
Emerald Oil Inc.	27266	33-053-05555	100
Emerald Oil Inc.	27363	33-053-05574	100
Emerald Oil Inc.	27978	33-053-05774	41
Emerald Oil Inc.	27979	33-053-05775	95
Emerald Oil Inc.	28121	33-007-01833	100
Emerald Oil Inc.	28170	33-053-05830	100

SB 2332
2.1.19
#4
Pg. 5

Map showing the driving distance between an approximate location of Mollet well based on its location in the East Tioga Field to the Tioga Gas Plant owned by Hess. Driving distance is less than 15 miles, which means as the crow flies or the route of a potential pipeline would likely be much shorter.



SB 2332
2.1.19
#4
Pg. 6

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Figure 3

SB 2332
2.1.19
#4
Pg.7

Key to chart:
Red-flaring
Purple- No Oil Production
Blue-Less than 10 Barrels of Oil Production
Green- no flaring

Month of Production	Mollet Well (NDIC # 17074)
2-16	
1-16	
12-15	
11-15	
10-15	
9-15	
8-15	
7-15	
6-15	
5-15	
4-15	
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SB 2332
2.1.19
#4
Pg. 8

Figure 2 Mollet Well

SB 2332
2-1-19
#4
pg. 9

FIGURES RELATED TO BUFFALO PAD AND MOLLET WELL

Figure 1 Buffalo Pad

Key-
Red- Flaring
Green- Not Flaring
Blank- well not drilled yet

Month of Production	NDIC # 23093	NDIC # 23094	NDIC# 23095	NDIC# 23096	NDIC# 23097	NDIC# 23098	NDIC# 23099	NDIC# 23100	NDIC# 23101	NDIC# 23102
2-2013										
3-20										
4-2013										
5-2013										
6-2013										
7-2013										
8-2013										
9-2013										
10-2013										
11-2013										
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2-2016										

SB 2332
2.1.19
#4
pg.10

Buffalo Pad for the first 21 months of its existence based on the production data we looked at from the Department of Mineral Resources[2].

This finding is alarming and highlights the need for waste minimizations plans that force companies to show how they are going to capture gas as soon as production occurs. In our comments regarding waste minimization plans we advocate for waste minimization plans that require companies to give the BLM a detailed plan as to how and when they will capture gas.

The Buffalo Pad also shows how the flexibility of the rule with regard to how companies can meet flaring volume limits can have the unintended consequence of some wells flaring a significant amount on a leasehold while other wells on the same leasehold capture the majority of their gas. In our comments regarding 3179.6 (b) we argued that the BLM should enforce flaring limits on a well-by-well basis rather than allowing companies the flexibility to take the flaring volume for an entire leasehold and then divide the total volume by the number of wells in order to meet the per well flaring volume limit. Buffalo Pad shows how a company could potentially meet the flaring limits in some of its months of production, despite flaring gas on the leasehold for 35 of 36 months. Specifically it is likely that Buffalo Pad would have met the flaring volume limits presently set out by the draft rule during seven months (February 2013, July 2013, August 2013, September 2013, October 2013, November 2013, and November 2014). This is despite the fact that in three of those seven months (September 2013, October 2013, and November 2013) flaring was occurring at five out of ten wells on the leasehold.

Buffalo Pad also further highlights the need for the provision in the rule under section 3179.10(b), which reiterates the BLM's existing authority to delay APDs or put conditions on ADPs including production restrictions on APDs if capture infrastructure is not available for a given leasehold. In the case of Buffalo Pad, it is clear that when the wells were drilled there was not sufficient infrastructure to ensure the gas on the leasehold would be captured. If the BLM had had the ability to exercise it authority under 3179.10(b) when the Buffalo Pad was drilled in 2013 to delay Buffalo Pad's APDs until sufficient capture infrastructure was in place, the BLM could have delayed the approval of all ten wells on Buffalo Pad until sufficient capture infrastructure was in place, or put production restrictions on the wells until this infrastructure was put in place. Additionally the BLM could have phased in the wells depending on the amount of gas gathering was available. But because the BLM did not have specific rules in 2013 giving them such authority there likely are several leaseholds just like the Buffalo well that have wasted a significant amount of gas.

Case Example Two: Mollet Well (East Tioga Field North Dakota):

Our second case example is the Mollet well. The reason for this case example is because a landowner who was a part of the group the Northwest Landowners Association in North Dakota testified in 2015 at a legislative hearing at the North Dakota Legislature

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[2] Id.

SB 2332
2.1.19
#4
pg. 11

about a well called the "Mollet Well" that had been flaring for seven years non-stop[3]. This case example will corroborate the landowners' testimony about the length of time the well has flared, and also highlight why North Dakota should not get a variance with regard to this rule due to the states inability to consistently enforce its rules.

The Mollet well is owned by Hess Corporation and was drilled in May 2008. From production data that was retrieved from the North Dakota Department of Mineral Resources one can ascertain that the Mollet well has been flaring non-stop since it was drilled in 2008 aside from a few months where it produced little oil and gas[4]. The Mollet well like the Buffalo Pad is in an established field and though it is not under the jurisdiction of the BLM, if it were it would not meet the criteria for a flaring exemption because it is in close proximity to the Tioga Gas Processing plant, which is less than 15 miles away from the well[5]. The Mollet well has been provided flaring exemptions on a yearly basis by the North Dakota Industrial Commission, despite it flaring 100 percent of its gas continuously for over seven years. In addition, despite the fact that the Mollet well has been flaring 100 percent of its gas since it was drilled it has yet to be curtailed by North Dakota regulators. In April 2015 Western Environmental Law Center and Western Organization of Resource Councils submitted an open record request to the North Dakota Industrial Commission (NDIC) in order to get information on all of the wells that the NDIC has curtailed since the start of its "Flaring Policy"[6]. The Mollet well was not on the list of wells that the NDIC curtailed[7]. The fact that North Dakota regulators curtailed some wells and the Mollet well was not curtailed shows the inconsistency with how North Dakota regulators are enforcing its "Flaring Policy". This inconsistency with regard to enforcement of its existing flaring policy is one reason we would advocate against giving North Dakota any sort of variances with regard to the proposed rule.

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[3] http://www.legis.nd.gov/files/resource/64-2015/library/sb2343.pdf?20160407171927
[4] North Dakota Industrial Commission Well # 17074
[5] See Figure 3- Map depicting distance from East Tioga Field to Gas Plant
[6] See Figure 5-open records request letter
[7] Id.

SB 2332
2.1.19
#5
Pg.1

Testimony to the Senate Energy & Natural Resources Committee

SB 2332

Andrew Alexis Varvel
February 1, 2019

Madame Chairman Unruh and Members of the Committee:

My name is Andrew Alexis Varvel. I live in Bismarck, District 47.

I like Senate Bill 2332. This bill should be a no-brainer. Senate Bill 2332 provides an excellent market-based incentive to reduce gas flaring and ensure that natural gas from North Dakota gets to consumers. The reform proposed by Senate Bill 2332 is fair, impartial, and involves far less red tape than the present system. Do not imagine there is no market for natural gas in this state. My home uses natural gas. Every time we use the kitchen stove, we use natural gas.

Senate Bill 2332 redresses a wrong. From my point of view, refusing to tax flared gas is stealing. It steals natural gas from our children, it steals tax revenue from the general fund, it steals tax revenue from the Legacy Fund, it steals royalties from landowners, and specifically it steals royalties from Mandans, Hidatsas, and Arikaras from the Fort Berthold Indian Reservation. To flare gas is to burn money. Go tell faculty members who lose their jobs to budget cuts that flaring gas is more important than higher education. Go tell property owners that flaring gas is more important than paying them royalties. Go tell property owners throughout our state that flaring gas is more important than keeping their property taxes down. You go tell them, because I won't. I won't get into economic figures because other people have better statistics. What I do know is that I fully expect future generations to feel disgusted by flaring tax revenue into the sky.

I applaud Governor Burgum's outreach to our indigenous neighbors, symbolized by flying tribal flags next to the Governor's Office. The State of North Dakota should look on this as a solid foundation to implement a Good Neighbor Policy. When one acts as a good neighbor, one does not burn one's neighbor's money.

SB 2332
2.1.19
#5
Pg. 2

I'll let you in on something. I finished college at the University of North Dakota with a BA in History, a BS in Geology, and the 1997 Merrifield Award for historical research. My first two years of college were on a National Merit Scholarship at the University of Houston. I am proud of the fact that I took the "History of Houston" course from Professor Poteet. In my further study, I learned how the Texas Railroad Commission successfully regulated the Texas oil and gas industry. More than that, I learned a major lesson – stick up for yourself. Too many people in North Dakota feel nervous whenever they hear the word "Houston". Too many people in this state feel frightened of the oil and gas industry's shadow.

It's past time for the people of North Dakota, preferably through our elected officials but if necessary without them, to stick up for ourselves. The oil and gas industry is neither so all-powerful nor so fragile that people must cater to its every whim. The oil and gas industry will do what it is told so long as it continues to make a solid profit. This reform of our statutory restriction of gas flaring provides an excellent incentive for the oil and gas industry to do the right thing.

This is a reasonable bill. Please give Senate Bill 2332 a **DO PASS** recommendation.

Thank you.

Andrew Alexis Varvel
2630 Commons Avenue
Bismarck, ND 58503
701-255-6639
mr.a.alexis.varvel@gmail.com

SB 2332
2.1.19
#6
pg.1

Testimony on SB 2332
January 31, 2019
Bismarck, ND

Dear Chair and Committee Members,

My name is Lisa DeVille. I am an enrolled member of the Mandan, Hidatsa, and Arikara Nation. My family and I are lifelong residents of Mandaree, a community on Fort Berthold Reservation.

I am writing to you in support of SB 2332.

This bill will push oil and gas companies to decrease flaring by requiring payment of taxes and royalties after one year. I believe this is a common sense step to prevent the waste of natural gas. It will also secure royalty money to communities that are burdened by flares, money that they would use for their schools and other infrastructure.

From 2008 to 2015 the State of ND has taken 450 million in tax revenues from Three Affiliated Tribes, also known as the Mandan, Hidatsa, and Arikara Nation, while they freely allow oil companies to burn natural gas.

I live in the Bakken and for the past 11 years I have witnessed the 24/7 flaring and venting from the oil and gas industry. Every turn you make there are flares that light up the night sky. This bill will hold the oil and gas companies more accountable, give financial relief to those affected by flares, and increase revenue for the state as well.

I would like to see a bigger push for gas capture but this bill is a good start towards holding the oil and gas companies accountable and compensating the state and mineral owners for product that's extracted. For these reasons I urge a DO PASS vote from this committee on SB 2332

If you have any questions, please email me at lisadeville2013@gmail.com. Thank you!

Sincerely,

Lisa DeVille

Mandaree, ND

SB 2332
2.1.19
#7
Pg.1

NORTH DAKOTA
PETROLEUM
COUNCIL
100 West Broadway, Ste. 200 | P.O. Box 1395 | Bismarck, ND 58501-1395
701.223.6380 | ndpc@ndoil.org | www.NDOil.org

Senate Bill 2332

Testimony of Ron Ness

Senate Energy & Natural Resources Committee

February 1, 2019

Chairman Unruh and members of the Energy & Natural Resources Committee, my name is Ron Ness, president of the North Dakota Petroleum Council. The North Dakota Petroleum Council represents more than 500 companies in all aspects of the oil and gas industry, including oil and gas production, refining, pipeline, transportation, mineral leasing, consulting, legal work, and oilfield service activities in North Dakota. I appear before you today in opposition of Senate Bill 2332.

Gas capture is a real challenge or opportunity in the Bakken; the solution to capturing as much of this valuable resource does not lie in more taxes and penalties as proposed in SB 2332. The North Dakota Industrial Commission has already imposed gas capture targets that have created the ultimate incentive, which has caused producers to self-restrict daily production to meet the targets. Department of Mineral Resources Director Lynn Helms stated in last month's production report that he estimated industry restricted oil production in November of 2018 at 99,000 barrels of oil per day. Oil producers have dedicated full-time staffers that focus every day on managing their gas production and capture. Meanwhile, the midstream industry is building gas processing plants and working to install gas gathering infrastructure as fast as possible. The industry has invested $18 billion in gas capture infrastructure and is spending another $3 billion as we speak. This week, WBI Energy announced a $220 million project to construct 67 miles of gas pipeline. Rest assured, everyone is focusing on the challenge, and this tremendous Bakken resource that produces associated gas is also creating incredible opportunities and economic growth. We urge you to have a long-term vision that encourages growth and innovation.

The North Dakota Petroleum Council urges a Do Not Pass on Senate Bill 2332. I would be happy to answer any questions.

SB 2332 2.1.19 #7 Pg.2

MDU RESOURCES GROUP, INC.

Press Release

MDU Resources Subsidiary Plans to Construct Bakken Natural Gas Transportation Project

Company Release - 1/25/2019 8:30 AM ET

BISMARCK, N.D., Jan. 25, 2019 /PRNewswire/ -- MDU Resources Group, Inc. (NYSE: MDU) announced today that subsidiary WBI Energy, Inc. plans to construct approximately 67 miles of new pipeline, compression and ancillary facilities to transport natural gas from core Bakken production areas in western North Dakota to an interconnection point with Northern Border Pipeline. This North Bakken Expansion Project, as designed, would provide 200 million cubic feet per day of natural gas transportation capacity.

MDU RESOURCES GROUP, INC

Dependent on regulatory and environmental permitting and finalization of transportation agreements with customers, construction on the project is expected to begin in early 2021 and be completed late that year.

WBI Energy held an open season, soliciting customer interest in capacity on the North Bakken Expansion Project, that resulted in long-term transportation commitments from natural gas production, gathering and processing companies.

"We are excited to grow our pipeline system to meet the natural gas transportation needs in the Bakken region," said Trevor J. Hastings, president and CEO of WBI Energy. "We are working with our customers to meet these needs as the industry focuses on reducing natural gas flaring while growing production volumes."

The estimated cost to build the designed 20-inch diameter pipeline and two associated compressor facilities is $220 million. The project is expected to start near Tioga, North Dakota, and extend to a new connection with Northern Border Pipeline in McKenzie County, North Dakota.

WBI Energy plans to utilize the Federal Energy Regulatory Commission's National Environmental Policy Act pre-filing process for the North Bakken Expansion Project and will begin that process by late in the first quarter of 2019. The final project design, route and cost will be based on customer demand and final agreements, as well as the engagement of other project stakeholders through the pre-filing process. If warranted by customer demand, the project could be expanded to provide transportation capacity of up to 375 million cubic feet per day.

About MDU Resources and WBI Energy

MDU Resources Group, Inc., a member of the S&P MidCap 400 index and the S&P High-Yield Dividend Aristocrats index, is Building a Strong America® by providing essential products and services through its regulated energy delivery and construction materials and services businesses. For more information about MDU Resources, see the company's website at www.mdu.com or contact the Investor Relations Department at investor@mduresources.com.

WBI Energy, Inc. provides natural gas transportation, underground storage and gathering services through regulated and nonregulated pipeline systems primarily in the Rocky Mountain and northern Great Plains regions of the United States. It also provides cathodic protection and other energy-related services. WBI Energy is an indirect subsidiary of MDU Resources. For more information about WBI Energy, visit the company's website at www.wbienergy.com.

Forward-Looking Statement

The information in this release includes certain forward-looking statements within the meaning of Section 21E of the Securities Exchange Act of 1934, as amended. The forward-looking statements contained in this release, including statements made by the CEO of WBI Energy and statements relating to plans and expectations regarding the North Bakken Expansion Project, are expressed in good faith and are believed by the company to have a reasonable basis. Nonetheless, actual results may differ materially from the projected results expressed in the forward-looking statements. For a discussion of important factors that could cause actual results to differ materially from those expressed in the forward-looking statements, refer to Item 1A-Risk Factors in MDU Resources' most recent Form 10-Q and 10-K.

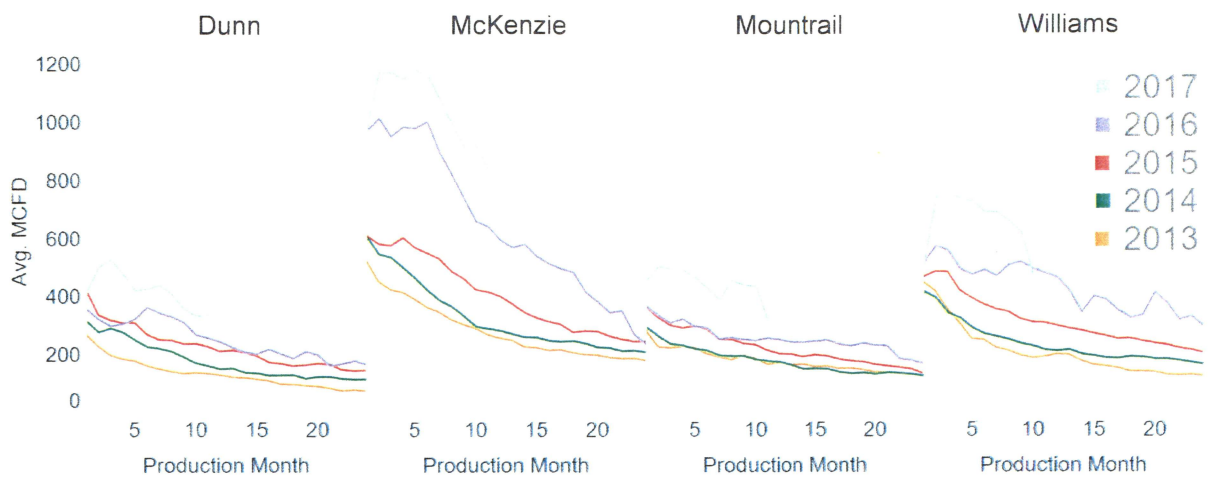
Media Contact: Laura Lueder, manager of communications and public relations, 701-530-1095
Financial Contact: Jason Vollmer, vice president, chief financial officer and treasurer, 701-530-1755

View original content to download multimedia:http://www.prnewswire.com/news-releases/mdu-resources-subsidiary-plans-to-construct-bakken-natural-gas-transportation-project-300784263.html

SOURCE MDU Resources Group, Inc.

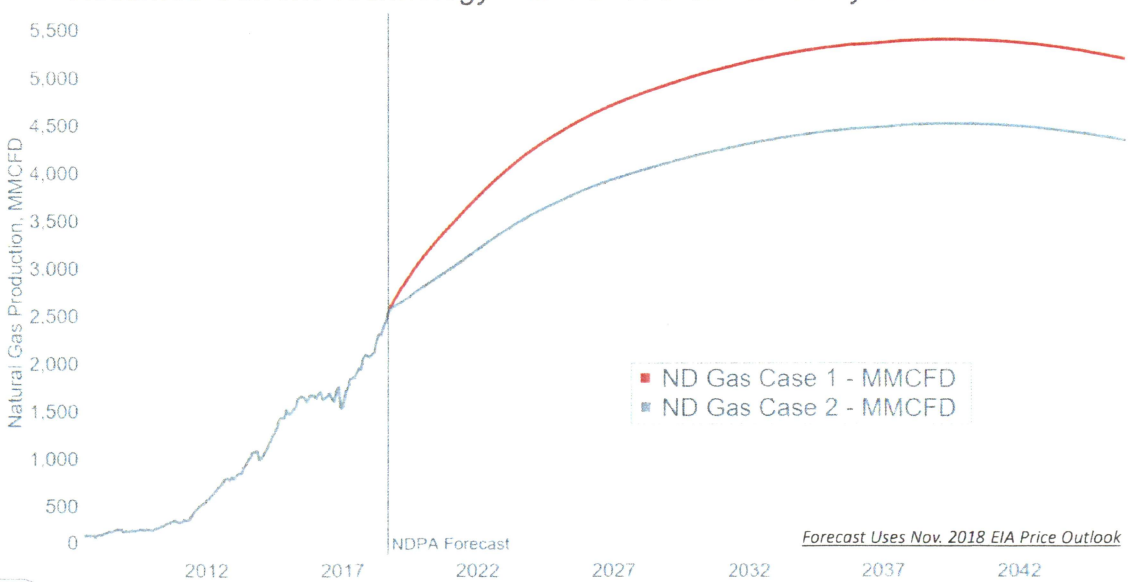
SB 2332
2.1.19
#7
Pg.3

Bakken and Three Forks Gas Performance



NDPA North Dakota Gas Production Forecast

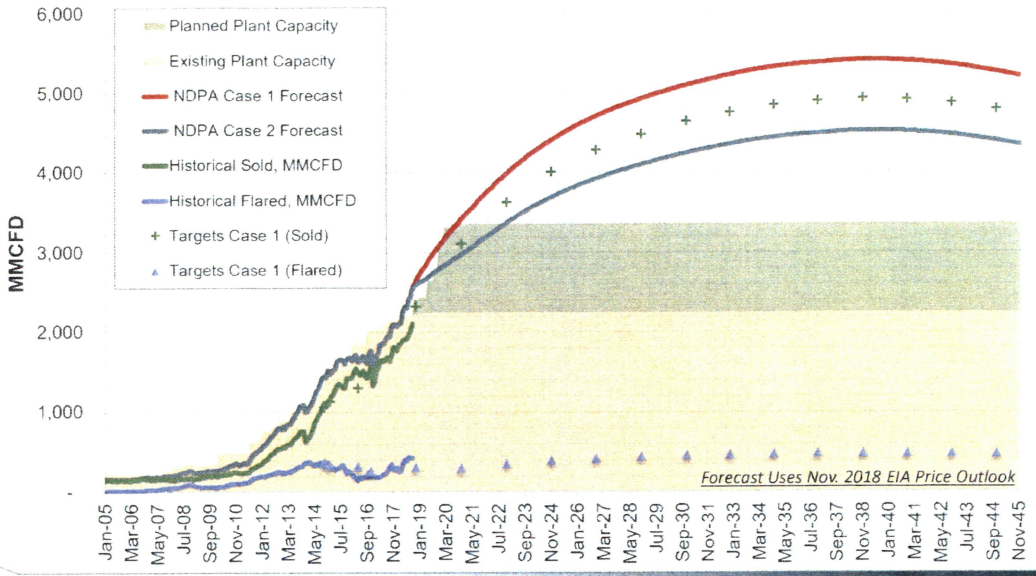
Assumes Current Technology – Enhanced Oil Recovery Not Included



SB 2332
2.1.19
#7
Pg.4

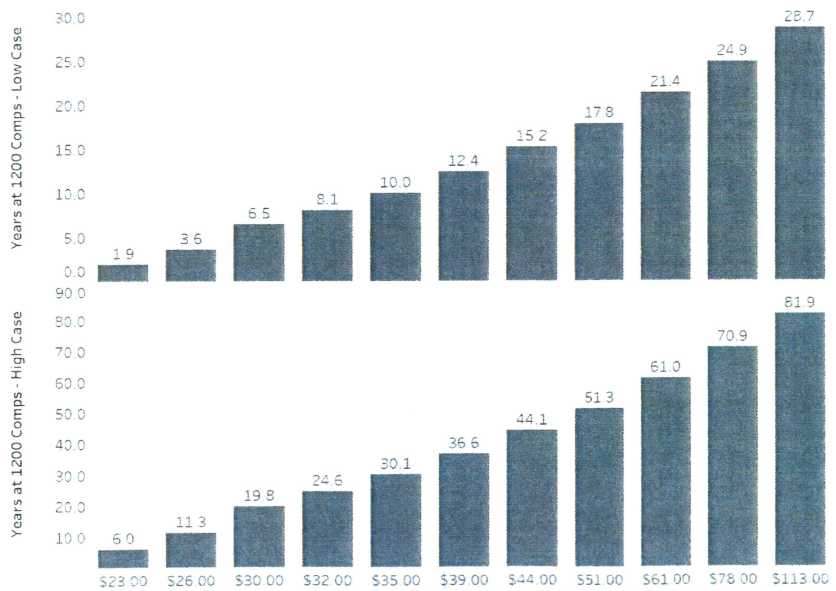
Solving the Flaring Challenge

Assumes Current Technology – Enhanced Oil Recovery Not Included



Years Remaining* / Minimum Wellhead Oil Price

*Assumes 1,200 Completions Per Year and $7MM Well Costs (20% After Tax IRR)



SB 2332
2.1.19
#8
Pg. 1

MINERALTRACKER

2018 Percent Gas Flared	16.7%
2018 Potentially Penalized Gas	7.4%

Hypothetical Impact of Bill 2332 for 2018 Production

Month	Penalized Gas (Mcf)	Gross Gas Revenue	Est. Mineral Owner Net Revenue	Est. Gas Taxes	Est. Mineral Owner Net Revenue per Day	Est. Gas Taxes per day
Jan-18	4,615,654	$17,031,763	$1,572,712	$256,169	$50,733	$8,264
Feb-18	4,132,442	$11,033,620	$1,012,900	$229,351	$36,175	$8,191
Mar-18	4,236,535	$11,396,279	$1,046,358	$235,128	$33,753	$7,585
Apr-18	4,491,030	$12,574,884	$1,155,528	$249,252	$38,518	$8,308
May-18	5,612,465	$15,714,902	$1,444,070	$311,492	$46,583	$10,048
Jun-18	4,724,703	$14,032,368	$1,290,951	$262,221	$43,032	$8,741
Jul-18	5,389,603	$15,252,576	$1,394,307	$379,967	$44,978	$12,257
Aug-18	5,582,297	$16,523,599	$1,512,192	$393,552	$48,780	$12,695
Sep-18	5,475,096	$16,425,288	$1,503,684	$385,994	$50,123	$12,866
Oct-18	6,670,700	$21,879,896	$2,007,151	$470,284	$64,747	$15,170
Nov-18	6,353,486	$25,985,758	$2,394,172	$447,921	$79,806	$14,931
Approximate Total (normalized to 12 mo's)	**62,491,648.36**	**$194,019,201**	**$17,818,937**	**$3,950,542**	**$48,819.00**	**$10,823.40**

Compared to Impact on Oil Production

Oil Off Due to Flaring Regs	99,000	BBL per Day	
Associated Gross Revenue	$4,455,000	per Day	
Associated Mineral Owner Net Revenue	$751,781	per Day	15x Estimated Gas Royalties Dues to Proposed Regs
	$274,400,156	per Year	
Associated Oil Taxes	$445,500	per Day	41x Estimated Gas Taxes Due to Proposed Regs
	$162,607,500	per Year	

Chairwoman Unruh SB 2332 2-1-19 A

SB2332
2.1.19
#9
p.1

1st

Summary / Intro:

CO_2 & Methane are among the greenhouse gas byproducts of petroleum production.

In prior times, we used to dump the oink of the pig, mining waste & industrial pollution into rivers or leftit onsite.

These are unwanted side effects, & if producers can treat these as Externalized costs, they can let someone else take care of & "pay" for them. Wasteful, valuable resource - right up to the atmosphere.

The results of A couple of polls taken recently of North Dakotans on their feelings about their State gov't weren't good, Along the line of not serving ND voters' interests, & maybe being beholden more to special or business interests. I heard about in another committee hearing last week

I wonder if ~~this~~ bill requiring or collecting revenue on flaring of only 60% or 75%, rather than 98% or 100% - a politically possible half-measure - to remove the public & royalty interest owners' complaints over lost tax & royalty revenue from the equation, thus allowing producers to continue to flare as they like, & as the Industrial Commission - a product for earlier times - may see fit to leniently regulate, or frequently forgive whatever flaring occurs. But the valuable resource is still wasted - benefitting no one, & contributing to terrible harm along the way.

Why allowed to flare new wells beyond the first 90 days?

From the Permian to Alberta, producers are increasing their flaring rates.

Could this be amended?

Alaskans used to get oil fund checks.

SB2332
2.1.19
#9
Pg.2

SB 2332 Bill to Reduce Flaring, 2019

N. Dakota wastes more natural gas through flaring than any other state in the nation. Now we have a chance to do something about it. On **Friday, February 1st, 9:30 AM** in the **Ft. Lincoln room**, the Energy & Natural Resources Committee will conduct a public hearing on **SB 2332**, a **bill to reduce flaring**. Get a **copy** of the Bill.

Introduced by Senators Mathern, Dotzenrod, Heckaman, Oban; & Representatives Boschee, Jones

Flaring: ~~Troad*along.890~~

Thank you for sponsoring this bill. By now, it ought to be a unanimous vote in favor.

What you already know: Methane released into the atmosphere has 84 times the potency for its first 25 years than CO2. "You" – collectively the ND legislature – know that because I reminded one of your relevant committees of this ~~at least a couple of~~ about four years ago.

When I first learned of the NY Times accounts of flaring lighting up the ND night sky, easily visible from space, I wondered, What's WITH those otherwise practical, thrifty Dakota folks?! And how Embarrassing, to be from such a state? The arrogance and selfish profits-first motives of anyone who'd counsel and whine to you to continue to allow unfettered methane flaring, and the foolhardiness of still listening to it is unimaginable.

Is the calculus of this bill merely to get the tax & royalty bills, & let the wasted, flared gas go up the stack? Merely another cost of doing business in ND?

Were he here now, I could hear Johnny Horton singing ***North* to Dakota!, North! the Rush is On.** The original tune portrayed the spirit of the get-rich-quick schemers, adventurers, exploiters and some desperate people, who hoped to come to the Alaskan gold fields, strike it rich, and skedaddle back home. Be they hardy individuals from points east, south & west, or well-funded, sophisticated corporate petroleum development and extraction companies who seem to continue to have an easy way here, rolling North Dakota state government.

Sometimes you can merely represent your constituents, & their interests, but ~~sometimes~~ in critical circumstances, you have to lead.

We are Responsible. Most of our cars are still powered by gasoline, and our homes and workplaces warmed by natural gas and lit mostly by coal- or gas-fired electricity. So yes, there's still a healthy demand for these fuels.

But there was *also* a demand for Cyclone B pesticide. Or "Zyklon B," the trade name of a cyanide-based pesticide invented in Germany in the early 1920s. It consisted of hydrogen cyanide *(prussic acid)*, plus a cautionary eye irritant and one of several absorbents such as diatomaceous earth. The product is infamous for its deadly use by Nazi Germany during WWII. Not a good idea to continue producing it.

One of the fewest places with more Norwegian descendants than ND is Norway –

Norway, "the world's third largest exporter of gas and the largest oil producer in Western Europe," has managed to impose a zero ~~This wasteful flaring is near zero in~~ policy on producers there.

"A total ban on non-emergency flaring in the Norwegian continental shelf was introduced in 1971 in order to avoid wasting resources."

"In addition to these measures, a CO2 tax and greenhouse trading scheme has added further direct costs that strongly advise against developers from engaging in flaring. The CO2 tax was first introduced in 1991 and the amount collected by state authorities steadily increased over time. The tax is calculated based on the volume of gas flared and vented. In Norway, it comes at a rate of $120 per 1,000 cubic meters. This has been a driving force for the development of new technologies and operational procedures, for example the "closed flare system" that minimizes non-routine flaring.

Further, the tax, which is deductible as a cost from the corporate income tax, is in line with the Norwegian climate change policy and it's part of the country's commitment to the EU's Emissions Trading System (EU ETS). Moreover, hefty fines – far too large to be acceptable as "another part of doing business here," and punitive measures – including a temporary suspension of activities, jointly create an effective way to discourage operators from the flaring practices." https://egyptoil-gas.com/features/norwegian-lesson-in-gas-flare-elimination/, May 4, 2016

Key to Success

SB 2332
2.1.19
#9
Pg.3

In line with the Norwegian Energy Policy, the country has been able to merge its role as a large energy producer with a pioneering position in environmental issues in Europe and worldwide. According to a study conducted by GulzhanNurakhmet from the Academic Journal of Oil, Gas & Energy Law, "Norway brings one of the best examples of successful oil production policies as well as environmental protection."

As BenteWeisser, Senior Adviser at the Norwegian Ministry of Foreign Affairs, said at the Global Gas Flaring Reduction (GGFR) Global Forum in 2015, among the reasons behind the Norwegian success in its struggle against gas flaring is its clear and unambiguous legislation on the treatment of associated gas from the start.

The governmental strategy in the energy sector with a commitment to climate change policies is one crucial element of the success. In order to establish a systematic practice without gas flaring, the stakeholders are also required to play their part, which Norway successfully achieved. According to Nurakhmet, "**from** the Norwegian experience **we could draw conclusions** that clear and detailed gas flaring and venting policy, careful evaluation and examination of the development plan, plus cooperation of the Norwegian government with oil companies have been contributing factors to the successful Norwegian Gas Utilization Policy."

The consensus approach and collaboration between public authorities and main industry stakeholders is the necessary starting point to end gas flaring, Director of Economic Consulting Associates (ECA), Frederik Beelitz, affirmed at a presentation at a gas flaring workshop held in Egypt in March 2016. In fact, **volumes of gas flaring or venting are also strictly regulated at the production stage, and here's maybe the key to success**. In financial terms, the expert also emphasized the importance of fiscal incentives for associated gas investments, which are promoting technical innovations and the use of best possible technological practices.
https://egyptoil-gas.com/features/norwegian-lesson-in-gas-flare-elimination/, May 4, 2016

Plenty of both *Norwegian* ~~AND *German*~~ descendants live right here.

"Companies flare about 3% of the gas they extract in the Permian." That's still a lot of wasted gas, & it's reported in the W S J.
In America's Hottest Drilling Spot, Gas Is Going Up in Smoke - WSJ
www.wsj.com/articles/in-americas-hottest-drilling-spot-vast-volumes-of-gas-go-up-in-smoke-1535535001, Aug 29, 2018

New Texas Permian oil and gas flaring report reveals excessive gas waste and major gaps in operator flaring practices "Flaring is a practice by which oil and gas operators burn off natural gas (usually gas ~~that is~~ associated with oil production) rather than putting it in a pipeline or otherwise putting it to beneficial use. Flaring produces both carbon dioxide and particulate matter pollution and, because no flare is 100% efficient, un-combusted methane, a powerful greenhouse gas. Most oil and gas producing states flare less than one percent of associated gas."

"Oil and gas industry groups have long insisted methane emission regulations are unnecessary because the industry has the economic incentive to save their own natural gas product. Yet in 2015 alone, Permian operators in Texas flared 45.5 billion cubic feet of natural gas, enough to serve all of the household needs in Texas Permian counties for two and a half years.

"[Note] that some Permian operators are doing a good job of avoiding wasteful flaring. In fact, more than a third of the operators studied in the report generated consistent, minimal flaring rates, indicating companies and policy makers can do more to reduce gas waste and pollution through better flaring practices and policies. There may be valuable lessons from these high performing operators that should be applied and replicated throughout the Basin." *And see* the Table, **Figure 3** there, reporting widely varying flaring in 2014 & 2015 among the fifteen top producers there.

With Permian oil production exceeding 2.5 million barrels per day, the report suggests that **some operators are more concerned about extracting the oil as fast as possible instead of adhering to best practices to reduce waste and protect the environment**. **The level of unnecessary flaring taking place** in the Permian can **come**

SB 2332
2.1.19
#9
Pg. 4

with a hefty environmental and health price tag for nearby communities. In addition to wasting a valuable natural resource, flaring produces methane emissions which contribute to climate change and the combustion emissions can have serious public health impacts. A Clean Air Task Force study ranked seven of the Texas Permian Basin counties in the U.S. top 10 worst counties for asthma attacks. http://blogs.edf.org/energyexchange/2017/11/14/new-texas-permian-oil-and-gas-flaring-report-reveals-excessive-gas-waste-and-major-gaps-in-operator-flaring-practices/, by Colin Leyden, Nov 14, 2017.

Report: Texas Natural Gas Flaring at Record Highs Environmental groups have criticized the industry for this, saying companies could invest in gas-capturing technology. They also say regulators could be tougher on flaring limits. www.houstonpublicmedia.org/articles/news/2018/08/13/299613/report-texas-natural-gas-flaring-at-record-highs/, Aug 13, 2018

Reducing Oil 'Flaring' Could Cut Emissions in a Big Way
Adam Brandt, assistant professor of energy resources engineering in the School of Earth, Energy & Environmental Sciences at Stanford University, & his colleagues have performed a first global analysis comparing emissions associated with oil production techniques – a step toward developing policies that could reduce those emissions. The study suggests that eliminating routine flaring and cutting methane leaks and venting to rates already achieved in Norway could cut as much as 700 megatons of emissions from the oil sector's annual carbon footprint – a reduction of roughly 43%.
In the article, Brandt discusses the group's findings and strategies for reducing flaring. www.futurity.org/oil-production-emissions-flaring-1861772/, Sept 12, 2018 , which favorably mentions North Dakota.

Additionally, as we pump more methane and CO2 into the atmosphere, they have a cascading effect, as the polar icecaps and permafrost are also melting, releasing yet more methane and CO2, until we may reach, or have reached, a tipping point from which there's reverse, stop or going back.

Now that 75% of Americans (*finally!*) understand and believe that man-caused emissions are centrally responsible for the impending destruction of our planet's civilizations and environments, isn't it about time to wake up: ~~*the locals, in the mythical Paul Revere-style:*~~ escalating climate destruction is well upon us.

• Have average global temperatures been steadily increasing year-over-year for about the last fifteen?
• Any drought here lately (say, in the last three years)? How Severe, Extreme or Exceptional was it?
• Any increasingly strong, expensive and devastating hurricanes? *For instance,* Sandy in the Northeast, Michael in Florida Months After Hurricane Michael, Florida Families Remain ... - NPR, *www.npr.org/2019/01/30/689863634/months-after-hurricane-michael-florida-families-remain-homeless*

Take yer pick of snippets – most have excellent, usefully informative, charts:
• Methane: The other important greenhouse gas | Environmental ... *www.edf.org/climate/methane-other-important-greenhouse-gas* "Methane is a potent greenhouse gas that damages our climate when it's ... While methane doesn't linger as long in the atmosphere as carbon dioxide, it is initially ... In the **first two decades after** its release, methane is **84** times more potent than carbon dioxide. ... **Oil and gas companies waste millions of dollars of gas a year** ..."

• US oil and gas methane emissions 60 percent higher than estimated ... *https://www.sciencedaily.com/releases/2018/06/180621141154.htm* Jun 21, **2018** ... Methane, the main ingredient of natural gas, is a potent greenhouse gas that has more than **80** times the warming impact of carbon dioxide over the first **20** years after its release. ... reduced if properly monitored," said co-author Colm Sweeney, an atmospheric scientist in **NOAA's** Global Monitoring Division.

• Scientists struggle to explain a worrying rise in atmospheric methane *www.economist.com/science-and-technology/2018/04/28/scientists-struggle-to-explain-a-worrying-rise-in-atmospheric-methane*

Apr 28, **2018** ... A potent greenhouse gas ... In the past decade methane levels have shot up (*see* chart), to the extent ... its warming effect (calculated over 100 years) is **25** times higher. ... But this fossil methane is only 20% of the total. The remaining 80% is produced by micro-organisms which break down organic matter.

SB 2332
2.1.19
#9
Pg. 5

• Overview of Greenhouse Gases | Greenhouse Gas (GHG ... - EPA *www.epa.gov/ghgemissions/overview-greenhouse-gases* Oct 31, **2018** ... Total Emissions in 2016 = 6,511 Million Metric Tons of CO2 equivalent. Gases that trap heat in the atmosphere are called greenhouse gases. ... Methane (CH4): Methane is emitted during the production and ... *spans* of time, ranging from a few years to thousands of years.

• Atmospheric methane - Wikipedia *https://en.wikipedia.org/wiki/Atmospheric_methane*
Atmospheric methane is the methane present in Earth's atmosphere. Atmospheric methane concentrations are of interest because it is one of the most potent greenhouse gases in Earth's atmosphere. The 100-year global warming potential of methane is 28. *That is*, over a 100-year period, it traps **28** times more heat per mass unit than carbon dioxide and ***32*** times the effect when accounting for aerosol interactions. Global methane concentrations had risen from 722 parts per billion (ppb) in pre-industrial times to 1800 ppb by 2011, an increase by a factor of 2.5 and **the highest value in at least 800,000 years**....& It's higher than that now, 8 years later.

Scientists agree that humanity – including our agriculture, fishing and other required functions – can continue to survive with an atmospheric concentration of CO_2 around 350 ppm. But quoting https://en.wikipedia.org/wiki/Anthropocene#Climate – *quoting here*:

"One geological symptom resulting from human activity is increasing atmospheric carbon dioxide (CO_2) content. During the glacial–interglacial cycles of the past million years, natural processes have varied CO_2 by approximately 100 ppm (from 180 ppm to 280 ppm). As of 2013, man-made, "*anthropogenic*" net emissions of CO_2 increased atmospheric concentration by a comparable quantity **from 280 ppm** (~~Holocene or~~ **pre-industrial** "equilibrium") to approximately 400 ppm, **with 2015-16 monthly monitoring data of CO_2 displaying a rising trend above 400 ppm**. [The heretofore unseen "hockey stick" shooting up in current years on the graph.] This signal in the Earth's climate system is especially significant because it's occurring much faster, and to a greater extent, than previous, similar changes. Most of this increase is due to the combustion of fossil fuels such as coal, oil and gas, although smaller fractions are the result of cement production and land-use changes (e.g., deforestation)." – all man-made.

You really SHOULD see Wikipedia's recap of this – the charts and illustrations are highly informative. Also, https://en.wikipedia.org/wiki/**Global_warming**, & https://en.wikipedia.org/wiki/Climate_change and the several links under **See Also** and other References there, for starts.

Now that 75% of Americans (*finally!*) understand and believe that man-caused emissions are centrally responsible for the impending destruction of our planet's civilizations and environments, isn't it about time to wake up the locals, in the mythical Paul Revere-style: escalating climate destruction is well upon us.

• Have average global temperatures been steadily increasing year-over-year for about the last fifteen?
• Any drought here lately (say, in the last three years)? How Severe, Extreme or Exceptional was it?
• Any increasingly strong, expensive and devastating hurricanes? *E.g.,* Sandy in the Northeast, Michael in Florida Months After Hurricane Michael, Florida Families Remain ... - NPR,
www.npr.org/2019/01/30/689863634/months-after-hurricane-michael-florida-families-remain-homeless

Also, the fossil fuel industry seems to have learned tobacco's lessons well:
https://en.wikipedia.org/wiki/Merchants_of_doubt

Much of
"Government is about who gets what."
hg. [redacted]
1. Why free flaring for one year? Wasn't it only for the first 90 days not long ago?
noted economicist founder, & pro-business & capitalism:
See also Adam Smith, Wealth of Nations - on monopolies (also applicable to cooperative oligopolies, in directing or controlling government/state regulation.

SB 2332
2.7.19
#1
Pg. 1

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Title.

Prepared by the Legislative Council staff for
Senator Mathern
February 5, 2019

PROPOSED AMENDMENTS TO SENATE BILL NO. 2332

Page 1, line 1, after "A BILL" replace the remainder of the bill with "for an Act to provide for a legislative management study of flaring rates and the flaring of gas.

BE IT ENACTED BY THE LEGISLATIVE ASSEMBLY OF NORTH DAKOTA:

SECTION 1. LEGISLATIVE MANAGEMENT STUDY - FLARING RATES. During the 2019-20 interim, the legislative management shall consider studying flaring rates and the flaring of gas. The study must include a comprehensive comparison of flaring rates in all oil and gas-producing states in the United States, flaring rates on federal and tribal lands, and flaring rates in foreign countries producing oil and gas. The study must include an overview and an evaluation of public policies within states, the federal government, tribal nations, and foreign governments aimed at reducing flaring and methane emissions to provide guidance on how the North Dakota Industrial Commission could improve the 2014 North Dakota Flaring Order in an effort to capture more gas in the future. The legislative management shall report its findings and recommendations, together with any legislation required to implement the recommendations, to the sixty-seventh legislative assembly."

Renumber accordingly