MR. DANIEL TAILLANT: Hello, my name is Daniel Taillant. I'm the Director of the Center For Human Rights and the Environment, an NGO that was originally founded in Argentina in 1999 and we moved to the United States for political reasons, among others, in 2015. So we've been in Florida now for three years almost, a little bit more.

We would like to speak to you today about fracking and specifically about some recent work that we've done to look at emissions from the oil and gas sector that have to do with fracking but also with conventional oil and gas and the impacts that these emissions have on communities and also a little bit about the technology that we've utilized to register these emissions and the implications that they entail, not only because this is something relatively new but because this is something that really is occurring across the sector and all around the world. And we think it's very important that individuals that are engaged on fracking issues and oil and gas more generally should be taking up.
Environment has worked for several decades now on bridging the human rights and environments field. We've worked on things like climate change, corporate accountability, mining impacts, right to water, these have been some of the central focuses of our work.

We've been more engaged recently on glacier protection and oil and gas specifically in large part because in Argentina a very big shale play was discovered a few years back called Vaca Muerta, or the dead cow, and this is creating quite a bit of controversy in Argentina. We've been engaged on some of the issues related to this topic.

And I'm happy to begin if you're ready to go.

The title of the presentation is called the Human Rights Impact of Unchecked Emissions From The Oil And Gas Sector. It's prepared by myself at the Center For Human Rights and the Environment and I would like to suggest and to inform you that parts of this presentation come from Priscilla Villa and Pete Dronkers of Earthworks with whom we've done a lot of the field work that is included in the presentation and by Jonathan Banks who has provided some of the technical information about methane impacts in the oil and gas sector.

We have four central questions which you are
already familiar with so I won't spend time going over them. But to conclude before we begin on some of the main elements that we will speak about in this presentation are ongoing field work that has begun recently has revealed systematic and very significant emissions, leaks, from conventional and non-conventional oil and gas operations.

These are emissions or leaks that neither government nor industry monitors. Generally there's no data collected regarding these leaks and in most cases the companies and the governments are not conducting any repairs or taking any action to stop these leaks and avoid them in the future.

In some cases the leaks are fugitive emissions which we'll consider emissions that are not intended, maybe it's a loose pipe or some joint that is leaking or a part of the equipment that is leaking and is omitting these emissions to the atmosphere. In other cases it may be that the leaks or the emissions are actually intentionally emitted into the atmosphere. This has to do in most cases with outdated technology or the very system utilized by the oil and gas industry which incorporates moments of leakage or emissions into the atmosphere.

In the cases that we've looked at these leaks
or emissions are highly toxic, both to human health and
are very impacting to the atmosphere, accelerating
climate change tendencies as we know them today. And
for these reasons they are very particular to this
presentation.

A summary of our findings before we move
forward, and we'll come back to these issues during the
presentations. The emissions or the leaks in this case,
are placing the human rights of workers of the industry,
people that work on these sites and nearby residences,
at great risk. They are affecting their human right to
a healthy environment. Their right to life. Their
right to health. And their right to information,
because, in most cases, few people or no people know
about these leaks.

The severity of the leaks of these emissions
from the sector absolutely warrant provisional measures.
They can be stopped. We must work to stop these toxic
fugitive emissions because we can do it and it's
possible to do.

And they require companies to take steps to
monitor, measure and more importantly to cease these
emissions. And they require governments to intervene to
protect communities and force companies to comply with
the law and reduce or even fully eliminate these
emissions. And also to provide information about the emissions past, present and future, to communities.

Companies are absolutely liable. They are fully aware of these fugitive emissions and yet they do nothing to curtail them or to cease them.

States are liable, as they should be enforcing emissions standards and insuring that the companies are not allowing fugitive emissions or placing communities or workers at risk.

And knowing that these fugitive emissions, particularly methane gas, and we'll get into that a little bit more in the presentation, are many more times destructive to the atmosphere even up to 100 or more times impacting than CO2 in terms of their climate impact. And particularly because of recent agreements signed by many governments, such as the Montreal Protocol or the Paris Agreement to reduce these emissions, states are responsible for the climate impacts that are caused by these emissions, particularly if they're not doing anything.

Quickly to look at a fracking site and some of the areas or equipment that might be emitting that we've looked at with the technology that we'll get into in a moment. This may occur a fracking tower that is actually conducting fracking. It could occur at a water
storage facility or produced water facility, as you see
in the back right of the image, in condensation tanks,
in drilling and fracking equipment, in trucks.

It could also exist in infrastructure used for
compressing gas, which is not in this image, and these
emissions include methane but also may include volatile
organic compounds such as VOCs or a particulate matter
or C02 or black carbon. These are all very toxic
emissions. They're not good for people and not good for
the environment. In the case of methane certainly not
good to prevent climate change.

These emissions occur at traditional oil and
gas well pads. They occur in flaring, they occur in
compressors, in gas processing plants, in transmission
equipment and storage equipment and in distribution
inside cities, outside of cities at oil and gas sites
wherever they may be.

Oil and gas is the No. 1 industrial source of
methane pollution which is a powerful greenhouse gas.
It's also a major source of toxic emissions that lead to
ozone smog and fine particulate pollution making them
also very concerning to human health and to the
environment.

Methane for those that have looked a little
bit into it has a very high global warming potential up
to 100 times more than CO2. In the near term, and this is especially important for taking action, in the near term it has a much higher impact than in the long term. And this means that dealing with methane leakages and stopping them in the short term can be extremely important to avoid immediate impacts to our climate. It could have a very, very, very large effect, positive effect, if we are able to reduce these methane leakages in the short-term.

And some of the scenarios looking forward into the many decades to come the targets that we have at a global level to keep global climate change and warming to 1.5 percent really depends on addressing short life climate pollutants of which methane is one. So we really need to include short life climate pollutants in this reduction if we want to reach global climate change mitigation objectives and targets.

The International Energy Agency recently found that around 40% to 50% of current methane emissions could be avoided at no net cost and 75 percent of the emissions can be cut at a reasonable cost.

This is a very important point especially if we're considering intervention or legal intervention in the sector. Actually addressing these emissions is very viable, it's very feasible. The technology exists and
it's not expensive for the industry.

In fact, addressing these emissions can actually save the industry money and even generate a profit. So not addressing methane leaks just does not make business sense and it's also providing a climate benefit and reducing impacts to people in terms of the, not only methane, but other emissions that are emitted as well as then it's a win/win situation for everyone.

The oil and gas industry releases a wide range of chemicals that are known for probable carcinogens. This is in addition to methane. Remember that methane is not necessarily a chemical that is impacting human health. Although if we were to breathe a lot of methane then we would have respiratory problems in terms of lack of oxygen. But the real problems here, the immediate problems, are the carcinogens that are also emitted alongside of methane.

These are pollutants that are either emitted as a component of raw natural gas or a by-product of natural gas bunching that occurs at these sites.

And studies based on air measurements have identified elevated levels of benzene, hydrogen sulfide, formaldehyde, near oil and gas sites. In fact if you have visited oil and gas sites sometimes you smell rotten egg smell, this is common in these areas, and
this is, of course, coming from these emissions that are occurring.

Benzene has been linked to cancer. Ethyl benzene is associated with respiratory and eye irritation. Hydrogen sulfide is found generally near wells producing sour gas and in high concentrations it can cause severe respiratory irritation and even death.

We know of cases, of people, that work at oil and gas sites that have been exposed to some of these emissions and have died on the spot because they've breathed in very large amounts of these gases.

The oil and gas industry dumped millions of tons of methane and other pollutants like VOCs into our air each year. Pollutants from the oil and gas supply chain contribute to the formation of ozone or smog pollution which blankets many world cities in the warmer months and VOCs and methane then leak from the oil and gas supply chain and nitrogen oxides, formed by gas flaring and engines at natural gas facilities, react together in the presence of sunlight to form ozone smog.

So these are just some of the problems that are related to these emissions, when inhaled ozone can impair lung functions and trigger asthma attacks and aggravate conditions for people with bronchitis and emphysema, in some cases leading to premature death.
Children, the elderly and people with existing respiratory conditions are most at risk from ozone smog pollution. And, of course, if you work at these sites and you're there day after day you're also extremely vulnerable.

Fine particle pollution in CO2 emissions are also extremely significant in the sector, not only from some of this equipment but also from the trucks and the transport of these chemicals and agents as they go in and out of oil and gas operations.

This is a slide that suggests that a lot of these impacts are actually disproportionate for minorities and affect, for example, Native Americans or other poor communities more so than they would richer communities.

Some of the things that we can do to address these emissions impacts, certainly detect leaks. Now this is something that is lacking in the sector. For many, many decades the sector has simply allowed these leaks to occur. Has not even included efforts to stop the leakage or doesn't really even understand the volume of the leakages.

I spoke recently to the head of research of Argentina's primary oil and gas company and asked him about methane leakages from industry and his answer,
which was quite comical was, what leakage?

Now, in many cases, they don't even know that this is occurring because there aren't systems in place to measure them.

Certainly companies and states should be working to eliminate or minimize venting. They should prioritize the capture of gas, not the flaring of gas, minimize flaring, capture, reuse, recycle and send to market.

These engines that are used in the process should have pollution controls. There should be a regular monitoring, measurement and reports as well as verifications by third-parties to make sure that their objectives are being met in terms of mitigation, reduction and elimination.

Regardless of the emission source there is almost always a cost effective regulatory path which few countries have taken but which more and more are now beginning to embark on.

States like Colorado, California and others in the United States or also Canadian states and even trade agreements like NAFTA are beginning to address methane leakage from oil and gas and to establish commitments of reducing these emissions as part of their climate change strategies or simply as part of their environmental
objectives to clean up dirty industries.

States and companies around the world have recognized the problem and are moving in the right direction to address these leakages.

And now we get to some of the advocacy work on the ground, which is really what I wanted to show you because it really has been stunning and our own experience along with some of our partners and local communities over the past year have really changed our own perspective and knowledge about these issues. And it's really the material that we would like to present today.

And it begins with something called the FLIR technology. It's a hand held camera that looks a bit like an old video recorder but that little guy, when you power it on, it drops to about 250 degrees below zero and has a very highly sensitive sensor that is able to capture gases in the atmosphere.

Now this is not a heat sensing camera. It actually is able to detect some 20 different gases of which methane, benzene and xylene and toluene and others are a part. And just by holding it in your hand and pointing it at infrastructure you're able to see emissions.

The FLIR GF 320 is a camera we used in two
field visits that we did in Mexico and Argentina. This is state of the art technology utilized, not only by us in this case, but is the common technology used by industry to measure your methane leakages.

Few countries have these in their institutions that are doing controls but more and more companies now have this technology to detect methane leakages. They detect volatile organic compounds as well as methane gas.

The price of the camera, which is quite prohibitive, is about $150,000.00 and that would make it quite prohibitive for NGOs, for example. And this is something we're working on to try to get these cameras and this technology into the hands of local communities that are engaged with the oil and gas sector.

If you look at some of these images you'll see right away what we're talking about. The image on the right this is in Colorado right next to a school where a fracking tower exists. When you look at it if you were to walk up to the site you would see absolutely nothing. But if you put on the camera, turn it on and point it to the tower you'll immediately see voluminous quantities of gas right next to the fracking tower.

This is a plume of emissions that is going into the atmosphere right around the school and the
local neighborhood.

This is an image taken in Mexico in October of 2017. We went down to Veracruz and looked at about 15 different sites belonging to Pemex, the country's main and practically only oil and gas company.

And if you look at those tanks, and this is a photo taken at the very moment right as we were turning on the camera, you see absolutely no emissions but a moment later with the camera on you can see the copious amounts of emissions coming right out of the tanks.

Now this looks like steam but these are actually gases. There could be methane gas. There could be volatile organic compounds in the plume of emissions coming from the top of those two storage facilities.

This is an image taken in Neuquen Patagonia, Argentina. This is where the Vaca Muerta oil play, oil and gas shale play, is located and there we have the operator with a local community member looking through the camera pointing at the storage facility and showing emissions. If you look at the right image you can see the emissions coming right out of the tank.

And the next image another tank in a joint venture operation by Odeval and YPF, Argentina's state owned company. Again you see absolutely no emissions at TREMAINE & CLEMENS, INC. EUGENE, OREGON (541)343-8833
the tank. If you were to visit the site you would think
it was very clean and working in great condition but
when you look through the view finder of the FLIR camera
you immediately see the plume of smoke coming from the
exhaust pipes.

Now this is one of those cases where the very
technology of the industry, if you look closely at the
image, and you may not see it very well. There are two
little yellow dots right on top of the tank, those are
the venting pipes that are designed to leak these
emissions rights into the atmosphere.

In modern technology and state of the art
technology you would not have these vents going actually
into the atmosphere.

Another site in the Vaca Muerta shale play
very, very, large amounts of emissions coming from these
three or four tanks that you see there at the end.

If you look closely you'll see in the middle
of the image towards the bottom a worker is walking
right next to the tanks. No gas mask or anything else
to avoid breathing in the emissions coming from the
tanks.

Another tank also in Argentina. Here you see
the two vent pipes, again right at the top they're more
visible. This is outdated technology that should not be
used where they vent directly into the atmosphere.

Here you have the plume coming out of the tanks, extremely, extremely intense. This is one of the worst tanks that we saw.

You could see how, in the image, there is a dark and light part of the tank. The camera is actually able to see where the fluid is inside the tank without having to go into the tank by the temperature reading.

And you can see in the more sensitive registration of this image how big that plume is. And if you were actually to look at it blowing downwind it was about a mile and a half long.

I put a map here to show the location where we did the filming and a town that is nearby that is only two kilometers away, the exact same direction as the plume of smoke that you saw in the previous image.

One thing that I would like to stress, and I'm coming almost to a close of my presentation, is the importance of sharing this information with local communities.

What you see in the image, and you'll see a gentleman with a beret sitting behind a table right next to his little home in a rural part of Patagonia. This is Mr. Molina. He's 92 years old. He's been living at this location for about 50 years and he tells us that...
he's been there since the oil and gas sector showed up.
He lived there previously to its arrival. And since its
arrival he's noticed foul smells near his home, a
deterioration in the quality of his plant life around
his home, death of his animals. He has trouble sleeping
at night, constant headaches. And this is the first
time that these people have been told about the
emissions coming from this plant.

Now Mr. Molina also happens to be a member of
the Mapuches indigenous tribe. He is a leader of his
tribe and several the people in the image are also
leaders that had come out to listen to our presentation
and actually accompany us to the sites.

And there's Mr. Molina with his family again
and some of the indigenous leaders. His granddaughter
is the girl in the black shirt and she's taken up much
of the advocacy and will be a Mupuche leader in the
future in this area.

What's very interesting is when you put this
technology in the hands of the local community, this is
another tribe leader, a different part of the country
there, who went with us and who also, for many years,
has been visiting these sites and didn't realize that
there were emissions coming from the equipment. And
he's looking through the FLIR camera. You see how easy
it is to operate and looking at some of the emissions coming out.

The woman to his right is our colleague from Earthworks. And right behind her is another indigenous leader that worked with us.

Here is Pete Dronkers of Earthworks who operates the camera. And I will say Mr. Dronkers is a certified technician. When you buy this $150,000.00 camera it comes with a training.

So Mr. Dronkers actually went to a FLIR training, which took about a week, and he is an authorized and knowledgeable user of this camera and his testimony is actually valid in court.

So if you were to register these emissions or if he were to register these emissions they could be used as testimony and he is an authorized expert to be able to interpret the data.

So we know from his training and his use of the camera that what we were looking at is actually toxic emissions. Here he is showing other community members how the camera works and showing them the emissions coming from the various facilities.

You'll also see around his neck a little indicator that is used in cases where toxic emissions are so strong that you shouldn't actually be walking
around near the facilities. He carries that at all
times because in some cases it has gone off and that
suggests to him that he needs to move away quickly from
the facility.

Here is another picture that, for us, is
extremely important. These are two workers in the blue
helmets that actually came up to us while we were
filming. They were extremely curious as to what we were
doing. They weren't actually operators of the
equipment. They were workers that were digging trenches
and doing different types of public works right around
those three tanks that you see there in the background.

And they had no idea that they were being
exposed to these emissions. They had no knowledge of
how these equipment worked. They simply do work 24/7 all
the time around these facilities whenever they're called
to do so and they are being exposed.

So one of the things we would like to talk
about the right, human right to health and to life of
the very workers that have to be at these facilities all
the time.

If you look underneath the image there is a
FLIR registration of the emissions coming out from those
tanks at the exact moment that we are looking through
that camera. So you can see the copious amounts of
emissions coming from the tower.

Another indigenous leader who lives downwind from this facility, this is a processing plant where they compress gas, and you can see in the image no smoke but if you look to the right it looks almost as if it were on fire. And this is also the camera able to capture emissions as they are occurring at the facility. And this is a facility that operates 24/7.

Behind him is a local leader from an NGO that works with the community on various issues related to oil and gas.

So, to summarize, the human rights impacts, and this is getting to the end and to the conclusion of this presentation.

Fugitive or intentional emissions from the oil and gas operations place human rights of workers, of the industry and nearby residents, at great risk. It affects their human rights to a healthy environment, their right to health, the right to life and the right to information particularly because, in most cases, communities are completely unaware that this is going on.

The right to information is violated by companies that knowingly do not provide information about these emissions and/or the resulting impacts and
risks that workers and communities face.

The severity, or in some cases the potential severity, if they are lesser, of fugitive or intentional emissions from the oil and gas sector can be extremely harmful to human health causing a range of impacts including skin, eye and respiratory problems, long term cancer complications and even sudden death as cases that we know of have occurred at sites.

Testimonials from residents like that of Mr. Molina and workers living near oil and gas operations receive persistent and regular foul odors at or near their homes, which they attribute to the oil and gas sector but don't always know or can't always prove that it is the sector that is generating them.

They indicate also a steady loss of vegetation, a deterioration of their animals and general decline in the quality of their environment and accompanied by problems with sleep, recurrent headaches, cancer amongst their friends, peers and family, et cetera.

And some of the human rights that are potentially affected by emissions from oil and gas, the right to life, the right to health, the right to safe working environment, the right to a healthy environment, the right to information we've stressed several times,
the right to development, the right to remedy. You know, this needs to be addressed and needs to be resolved.

The right to livelihood of -- you can see the deterioration of working and living environment, the right to agriculture, the right to property, the right to culture, the right to land, the right to climate, to atmosphere and to air, the right to self-determination and in the case that we see in Argentina the rights of indigenous peoples are also greatly affected.

So going back now to answer the four questions that were posited by the panel, under what circumstances do fracking and other unconventional oil and gas extraction techniques breach human rights protected by international law as a matter of treaty or custom?

Well, in part, due to the unchecked fugitive emissions or intentional omissions from the oil and gas operations in fracking but also in conventional extraction and production does affect the health of workers and communities nearby as well as the conditions of the atmosphere and the climate.

The second question. Under what circumstances do fracking and unconventional oil and gas extractions technique warrant the issuance, by their provisional measures, a judgment enjoining further activity,
remediation relief or damages for causing environmental harm?

Well, if fugitive emissions are detected, provisional measures should be sought immediately to cease production, to oblige a company in the state to identify gases that are leaked and their risk to people and to the environment and to introduce the necessary filters, equipment or other actions to stop leakage.

Third question. What is the extent of responsibility and liability of state and non-state actors to the violation of these human rights and for environmental and climate harm caused by these oil and gas extraction techniques?

Well particularly as these fugitive emissions are common often times the technology utilized presumes that they will emit. While failure to upkeep and monitor equipment will also likely result in leakage and because company and state actors know or should know about them, both the company and the state are responsible and liable for human rights violations if they do not take the necessary steps to detect leaks and introduce action to stop them.

Both companies and states are also liable for not providing information about risks and impacts to workers and local communities who are most likely to
suffer these impacts.

I will say in both cases, Mexico and Argentina, our travel there with Earthworks and Clean Air Task Force and with the local community was the first time this was ever done. It was the first time they put a FLIR camera up to this equipment. It was the first time anyone knew about this information, about these emissions. So if an NGO can do it shouldn't the state and shouldn't the company also be doing it?

Absolutely.

Finally the last question. What is the extent of responsibility and liability of states and non-state actors, both legal and moral, for violations of the rights of nature related to environmental and climate harm caused by these unconventional oil and gas extraction techniques?

Well it is extensive. We have known for some time now that methane gas leakage is extremely harmful to our atmosphere and can cause up to 100 times or more impacts to climate change trends than CO2. And companies are responsible for and liable for these impacts.

Their emissions are causing climate change.

And here is a technique and information about something that is occurring that is causing direct impacts to
climate change.

One of the great challenges that we've had in attributing responsibility for climate change to oil and gas companies is that we didn't really have information to pinpoint which emissions are coming from which companies. Well this, with this information, has now changed.

We have the technology that allows us to see how much individual non-state actors are actually emitting and we have the evidence to prove that they are contaminating. We can quantify. We can show that it is occurring and in that way we can also hold states accountable for not taking measures to control these emissions.

A few final links that you can find out more information about these issues. We published a few years back on UN Guiding Principals on Human Rights and Business: Approach to Understanding Human Rights in the Fracking Sector. And we've also prepared an Amicus Brief, it's very brief, that summarizes some of the arguments presented in this presentation to the panel in the form of an Amicus Brief document and you can get that also on-line.

There has being some press coverage, and you're welcome to see those links and consult those
press releases. I encourage you to see some of the
video footage. It's quite impressive. It's far more
impressive than the images I've shown here today. And
I'm sure they will fully convince you that this is of
great concern and something that we need to attend to
into the future.

Our next stop will be Columbia. We'll be
working there to do similar field work as we've done in
Argentina and Mexico. We will be sharing our findings
with local actors there. We will be introducing
technology to advocates, to NGOs and to others that are
interested in engaging the sector to hold it
accountable.

We will be trying to instill capacity to
utilize this FLIR technology. We will try to help local
groups to acquire these cameras for their own local
advocacy. And we're already thinking about and studying
potential litigation in places like Argentina, like
Mexico or maybe Columbia to address, not only the risks
and the impacts that this is causing to local
communities and the state duty and corporate duty to
address them but also looking at climate change or
possible climate change litigation to hold companies
accountable for their emissions.

And with that I conclude the presentation and
I would be happy to take any questions or comments that you may have.

MR. GILL BOEHRINGER: Daniel, Gill Boehringer. Thank you very much for the wonderful presentation. It was most interesting but to me very surprising in one aspect. Most of what you said is consistent with things that we've heard from other presentations for the last three or four days, which is not to say that it isn't valuable. But the one thing that surprised me was that you were saying that if everybody does the right thing there will be no problem. And I find that really difficult to understand. Would you like to comment on that?

What I'm talking about is you were several statements about how it can all be fixed. That we have the technology, et cetera, et cetera. The leaks can be stopped and the fugitive emissions and intentional.

If they're intentional I really don't understand how they can be stopped but the fugitive ones -- well, I just find it hard to be believe to be honest.

MR. DANIEL TAILLANT: Sure. Thank you for this comment. This is a fundamental to our work and to the reactions that we also get locally about what to do with the sector.

First of all we believe that we should not...
have a future with fossil fuels. That is our first opinion.

And today, you know, we have about a 80/20 mix between fossil fuel and renewables and we would like to see that, over time, inverted and eventually have a move that is complete to renewable fuels that are non-contaminating. In the meantime we do have an oil and gas sector and that will be with us for awhile.

In the meantime there should not be intentional emissions.

In the meantime we need to reduce the emissions that are occurring.

So while we would like to love to see all the oil and gas people leave we don't have an immediate solution to that problem that can be resolved in the short-term.

So we, at the very least, need the oil and gas to stop polluting and killing people.

So, you know, we don't want to say that if you fix this everything is fine. We would rather hear, you know, you need to fix this right now and we need to see a plan in the next 50 years where you're phasing out of oil and gas.

And we certainly don't want fracking because that's just expanding the horizon. But it doesn't
change the fact that we do need to stop the problems
that do exist in the sector that can be resolved
immediately and that will save lives, it will improve
health and it will reduce the impact.

MR. GILL BOEHRINGER: So just to come
back to that. I guess we have a different idea and I am
an innocent abroad here.

I actually normally think of people as not
being evil so, therefore, when I think of intentional
emissions I assume that you were talking about the
necessary ones in the process in order to stop pipes
from blowing up and so forth.

So I would like to have you comment a little
bit more on what intentional emissions are so I will
understand how they can be stopped.

And the second thing is fugitive emissions, it
seems to me, is very unlikely that they all can be
stopped. And I guess that relates to the point you
made, which may or may not be the case, that stopping
all these emissions is going to be beneficial for the
corporations. I mean they must be really stupid if they
haven't figured that out by now.

But, yeah, go ahead. Please go ahead.

MR. DANIEL TAILLANT: Yeah, so I try to
believe the same thing that you do that people are not
evil but I've run into a few evil people here and there.

MR. GILL BOEHRINGER: Especially boards

of directors of corporations.

MR. DANIEL TAILLANT: Yes. Well, you
know, I think everyone thinks that they're doing the
right thing and some people may be doing the wrong thing
knowingly and those are the ones that I would consider
evil.

But I think part of the problem with the
sector is that this is just how they've done things for
a long time. And, you know, emitting invisible gases
into the atmosphere you get away with because no one
sees them, right?

And if you didn't really realize how much is
being emitted you might, you know, in a different state
of mind than we have today, you might not really care
that there is product being lost.

In a world now where we are recycling
everything and we're really working on the minimal
fractions of profit that are to be made it just doesn't
make economic sense to emit these gases.

And so the industry needs to realize this.

Sometimes the problem is that the amount -- even if
it's a profitable venture to not emit the gases it may
not be that profitable. They may only make a very small
marginal amount.

If there is no incentive to make the company
do this then they're willing to continue emitting
unabated. And that's where the regulatory work comes
in.

Governments that today, unlike 20 years ago
where they really didn't care what their emissions were,
that today have climate change strategies that are
aiming to reduce emissions 40%-50% in the next decade or
two. They're trying to find where they can reduce.

And like I said in one of the slides the oil
and gas sector is one of the major sources of methane
emissions for industry. And if that's where you can do
your reduction and it's cost efficient why not do it.

As a government regulator it makes sense and
as a company you should be willing to comply. And if
you're not then maybe you are evil.

DR. THOMAS KERNS: Let's make room for
Maria to ask a question here.

MS. MARIA FERNADA CAMPA: I too.

DR. THOMAS KERNS: Are you there Maria?

MS. MARIA FERNADA CAMPA: Please you and
then--

DR. THOMAS KERNS: No, no. I said let's
make room for Maria to ask a question.
MS. MARIA FERNADA CAMPA: Okay. Thank you. Did you apply this camera in United States oil and gas example?

MR. DANIEL TAILLANT: Yes. So not me personally but Earthworks, the organization that took the camera that owns the camera, they've done about 700 site visits, most of which have been in the United States, some in Canada. And every single time in every one of their site visits they have found problems.

So this is one of the things that I said earlier. This is a systemic problem for the oil and gas sector. Some are very bad and some are not so bad. But in almost all cases they find emissions whether they're fugitive or intentional.

MS. MARIA FERNADA CAMPA: Okay. Because the fracking hydraulic technology is really very, very bad for environment and for the people. Thank you.

MR. DANIEL TAILLANT: In particular on this point of fracking, because most of the presentation was, you know, both fracking and conventional but in fracking at the moment of extraction there is a lot of loss of gas.

When they leave the produced water there is a lot of emissions from the water that is exposed to the atmosphere. And then just like in conventional once they
start processing the gas and separating it that's where
a lot of leakages, the fugitive leaks are going to
occur.

MS. MARIA FERNADA CAMPA: Okay. Thank
you.

DR. THOMAS KERNS: We have to come to a
conclusion because of the next presentation but I want
to just clarify Gill's question a little bit more about
regulating versus banning.

So this is a human rights court and so the
standards on which they're making judgments are human
rights standards rather than regulatory standards.

And this court is going to make some
recommendations. It's going to have an opinion about
things. It's not making a binding law ruling or
anything. It's establishing an opinion.

So if when you ask this court to make a
recommendation about the future are you recommending to
the judges that they urge corporations to regulate and
states to regulate better or are you asking the judges
to recommend that states ban fracking?

MR. DANIEL TAILLANT: Right. So that is
a great question.

And I would say where there is no fracking
today I would say no-go zone. No more fracking. I
would be very strong to oppose any expansion of fracking.

You know, that's not going to happen in some countries and in some cases. To tell the Texans to not allow for fracking is going to be a hard sell, especially under this government.

So, in some cases, you may have to go the regulatory path. One way that regulation can help ban fracking is just to make it so complicated and so expensive that it doesn't make economic sense.

That's what we are seeing in Argentina. Fracking is very expensive because they don't have all the technology, they don't have all the infrastructure and the know-how to make it profitable.

So at $50.00 a barrel it's not going to happen. At 100 it will. And so we have some room there to try to make it more expensive and if we can do it maybe that is an indirect way to ban fracking.

DR. THOMAS KERNS: Well, thank you.

Thank you very much.