lots of people are really enthusiastic about space my husband my daughters and a lot of my colleagues love rockets and pretty much anything that has to do with space it's never really been my thing however i recently went to a rocket launch and i can honestly say that i got emotional and the emotion that i felt wasn't just the real or are it was hope because my colleagues and i helped put something on that rocket that will address the single most it's important thing we can do to affect climate change in our lifetimes we often hear about things we can do to help our grandchildren and the earth that they'll inherit and everything we're doing to reduce carbon dioxide will certainly help in the long run but what if we could do something that would help people's lives now i believe we can because we're taking on methane methane is a highly potent short term greenhouse gas let's compare this year's carbon dioxide pollution from burning fossil fuels with this year's messing polish there is a lot more c o two however because methane is over eighty times as power full at trapping heat in the short term methane will cause as much warming as all that c o two and methane is easier to control if we know where it's coming from so what was on that rocket that makes me so hopeful this is methane that it's one of thousands of act of satellites orbiting the earth but it's my favorite not just because we help put it there but because we designed it for a purpose to have a profound impact on methane and soon for the past twenty years my job has been to understand climate from a variety of angles to be a bridge between scientists policymakers and companies ensuring that we're all working towards the same big vision and the vision for methane that is to deliver actual data quickly putting it in the hands of people in the trenches pushing for change now message comes from several sources it comes from cows he comes from landfills it comes from coal mines and a lot of it comes from leaks from the oil and gas infrastructure for a while we've known what the overall concentration of methane is in the atmosphere but we haven't been able to pinpoint sources and tell how much was coming from were in fact companies and governments often under report their emissions because they simply haven't had good data but now they well when we looked at the data we were collecting using airplanes we realized that would would never get a comprehensive enough view we simply cannot fly an aeroplane over every oil and gas field in

the world every day we realized that we needed to be collecting our data using a satellite and that satellite would need spectrometers that didn't not yet exist so we went to the world's most innovative instrument experts and they helped us build to spectrometers that would allow us to see methane emissions from five hundred and ninety kilometers away from space they had to develop a new many fat during technique to create a prism that would allow us to see how even the smallest concentrations of methane interact with like it's pretty amazing to give you a sense of the power of methane said i'd like to show you some images that will show how we'll see methane from oil and gas will be able to zoom in and out and circle back weekly to see how emissions have changed methane sat on show total picture not just point sources or or large leagues but also the smaller more spread out sources that actually make up the majority of admissions most of the time methane sad will show how much methane is coming from where overtime now you're the first to see this data is raw data they came from the satellite it's spectral imagery but after we do our analysis on and we still have to solve a people challenge and change human behavior so we'll put our analysis directly in the hands of those who can take action to reduce methane from oil and gas that would be government regulators the companies themselves and nonprofits who will be receiving our data at no cost fixing weeks is actually not a technical challenge often it's as easy as fixing a crack and a pipe companies know how to do this is just a matter of priority and that's what i mean by a people challenge environmental defense fund is taking this on as the first environmental nonprofit to own and operate a satellite we are supporting both the technology and the advocacy methinks that would not exist without generous donors some of whom are part of this ted community we'd like to thank you for your belief in our mission we'd also like to thank government entities like the new zealand space agency who have invested in methane sat to build their space capacity but also to better understand methane emissions from agriculture with powerful data and boots on the ground our goal is to reduce methane emissions from oil and gas facilities by seventy five percent in the next six years that's seventy five percent it's a lot and we have momentum fifty companies representing forty percent of global oil and gas production has already pledged cut they are methane emissions by

ninety percent or twenty thirty over one hundred and fifty countries have signed the global methane pledged to be a part of the solution purchasers can also influence sellers the largest importer of natural gas in the world the european union is already taking steps to extend its rules to apply to imports and setting and place rules that will allow them to buy from suppliers that have the least methane emissions and nothing that will help track all of that it's powerful when countries and companies have this knowledge but it's even more powerful when we all have that knowledge because it provides the information and the incentive for people to fulfill their commitments this kind of a radical transparency changes the dynamic it's what makes me hopeful and i hope you share that feeling as well with methane fat and space and the power of people on earth let's do everything we can as quickly as we can to slow the rate of global warming in our lifetime thank you