Hello. My name is Zeyneb Magavi and I'm also from the other side of the river and a member of Mothers Out Front. I too was motivated to become politically active for the first time by the threat of climate change to my children and the resulting moral obligation to do what is right for their future.

I suspect we all have this in common, here in this room, as I am very aware that the accomplishments of this committee have put Massachusetts in the lead with regards to energy efficiency – in other words you all have done a lot already to protect the future of our children. So, let me start by saying thank you.

My comments today are focused on the issue Sue raises – the rebates for fuel switching from oil to gas. This is, as I will explain, a regrettable substitution rather than a bridge to the future. Or rather, we suddenly find ourselves at the end of the bridge… and the future is now.

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Methane is 86x more powerful than CO_2 in it's first twenty years in the atmosphere. That matters a lot. It's why a whole slew of us moms went around tagging gas leaks and getting laws passed – those thousands of methane leaks in MA really add up – with total unburned natural gas adding ten percent to the state's annual GHG footprint[1]. Fixing the largest ones fast, as the gas utilities are starting to do this year, will have immediate beneficial GHG impact[2].

BUT, I want to back up for a minute and talk about methane emissions on a much bigger scale. To 2003. The year my oldest daughter was born, the year the fracking boom began… and also the year the methane in the earth's atmosphere began to rise, increasing at a rate of 27.5 million tons/year.[3] THAT is a BIG problem, but it's hard to solve a problem without a cause, and no one could agree on where that rising atmospheric methane was coming from… until four months ago, when NASA solved the puzzle, publishing a definitive study in the journal Nature[4]. The methane is coming primarily from unburned fossil fuel industry emissions – or leaked natural gas. There is now serious debate as to whether the switch from coal to natural gas is climate equivalent. Let that sink in.

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[1] McKain et al. (2015) Methane emissions from natural gas infrastructure and use in the urban region of Boston, Massachusetts. PNAS, 112(7).

[2] Hendrick, Ackley, Sanaie, Tang & Phillips (2016) Fugitive emissions from leak-prone natural gas distribution infrastructure in urban environments. Env. Poll., 213.

[3,4] Worden et al., (2017) Reduced biomass burning emissions reconcile conflicting estimates of the post-2006 atmospheric methane budget. Nature Comm., 8.

In the meantime, renewable energy, energy storage solutions, and renewable thermal options like heat pumps have all made enormous gains with technology improving all the time and prices dropping. The wall street journal wrote several articles in the last few months about the power shift happening in competitive energy markets - how solar and wind are now cost competitive with natural gas fired generation and electricity prices are dropping. We have seen this before. It is part of what has always been great about our society – we have the capacity to innovate and evolve. But it can be challenging.

Particularly for our most vulnerable populations. Why?
We don't just have a energy system in the middle of transformation, we also have a natural gas system that is aging and constrained. A ratepayer funded twenty-year commitment to replace aging distribution pipes, the Gas System Enhancement Plan, is three years in, and at current rates per mile, will cost gas customers 9.5 billion dollars over the remaining 17 years.[5] With gas rates going up and renewables going down, what happens?

Early adopters have begun switching to heat pumps – and as more customers switch, fewer gas customers are left to bear the burden of those infrastructure investments, driving the cost of gas higher. Leaving stranded assets. At that point, who is left? Those least able to choose to switch, bearing the cost burden of our decisions today.

We find ourselves in a rapidly changing situation. I grew up around here and no one imagined tides flowing into Boston streets back then, but then…. we also all found our way around by looking at creased paper maps upside down!

We need to adapt quickly and be strategic and proactive – so we can ALL survive and thrive. By all, I mean all…our natural gas companies can transform too – we can redefine 'gas distribution companies' as 'heat distribution companies' allowing them to evolve into district heating companies powered by renewables. This simple shift in mandate could allow our local energy delivery companies to become proponents and beneficiaries of a safer green economy.

In other words, it is to no one's benefit to delay or resist change. This is why, fuel switching to a gas furnace undoes the gains this committee has made and is in direct opposition to the Global Warming Solutions Act mandate. Please consider our suggestion for removing this rebate in the three-year plan and redirecting the funds toward further investment in renewable energy now. Because the future is now, and our children and grandchildren are counting on us.

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[5] Using 2017 average current rate of 1.7 million/mile for remaining 6,000 miles, based on the DPU GSEP Plan. Without increase in rates, so likely an underestimate of final cost.