

1  
2 COUNCIL OF THE CITY OF PHILADELPHIA  
3 COMMITTEES ON FINANCE AND TRANSPORTATION  
4 AND PUBLIC UTILITIES  
5  
6

7 Via Microsoft Teams  
8 Philadelphia, Pennsylvania  
9 Friday, April 29, 2022  
10 9:23 a.m.

11 PRESENT:

12 COUNCILMAN DEREK S. GREEN, CHAIR  
13 COUNCILWOMAN CINDY BASS  
14 COUNCILWOMAN KENDRA BROOKS  
15 COUNCILMAN ALLAN DOMB  
16 COUNCILWOMAN KATHERINE GILMORE RICHARDSON  
17 COUNCILWOMAN HELEN GYM  
18 COUNCILMAN CURTIS JONES, JR.  
19 COUNCILMAN DAVID OH  
20 COUNCILWOMAN MARIA QUINONES-SANCHEZ  
21 COUNCILMAN MARK SQUILLA

22 RESOLUTION 210653 - Resolution authorizing the  
23 Committee on Finance and the Committee on  
24 Transportation and Public Utilities to conduct  
25 joint hearings regarding the sustainability  
and diversification of the Philadelphia Gas  
Works.

21 - - -

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2 COUNCILMAN GREEN: Good

3 morning. Today is Friday, April 29th.

4 This is the Joint Committee on Finance  
5 and Transportation and Public Utilities.

6 I'm Councilmember at-large Derek Green,  
7 the Chair of the Finance Committee. I  
8 want to thank all of you for being with  
9 us this morning.

10 I understand that state law  
11 currently requires that the following  
12 announcement be made at the beginning of  
13 every remote public hearing as follows:

14 Due to the current public  
15 health emergency, City Council committees  
16 are currently meeting remotely. We are  
17 using Microsoft Teams to make these  
18 remote hearings possible. Instructions  
19 for how the public may view and offer  
20 public testimony at public hearings of  
21 Council committees are included in the  
22 public hearing notices that are published  
23 in the Daily News, Inquirer, and Legal  
24 Intelligencer prior to the hearing, and  
25 can also be found on [PHLCouncil.com](http://PHLCouncil.com).

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2 I now note that the hour has  
3 come for the beginning of this hearing.

4 Mr. Iannuzzi, will you please  
5 call the roll to take attendance.

6 Members that are in attendance,  
7 will you please indicate that you are  
8 present when your name is called. Also,  
9 please say a few brief words when  
10 responding so that your image will be  
11 displayed on screen when you speak.

12 THE CLERK: Councilmember Cindy  
13 Bass.

14 COUNCILWOMAN BASS: Good  
15 morning, Mr. Chairman, colleagues, and  
16 our viewing public. Good morning,  
17 everyone.

18 COUNCILMAN GREEN: Good  
19 morning.

20 THE CLERK: Councilmember  
21 Kendra Brooks.

22 COUNCILWOMAN BROOKS: Good  
23 morning, Mr. Chair, colleagues. I am  
24 present.

25 COUNCILMAN GREEN: Good

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2 morning.

3 THE CLERK: Councilmember Allan  
4 Domb.

5 COUNCILMAN DOMB: Good morning,  
6 Mr. Chair, colleagues, and the attendees  
7 and the viewing public. Present.

8 COUNCILMAN GREEN: Good  
9 morning.

10 THE CLERK: Councilmember Helen  
11 Gym.

12 COUNCILWOMAN GYM: Good  
13 morning, Mr. Chair, and good morning,  
14 colleagues. I am present.

15 COUNCILMAN GREEN: Good  
16 morning.

17 THE CLERK: Councilmember Mark  
18 Squilla.

19 COUNCILMAN SQUILLA: Good  
20 morning, Mr. Chair and colleagues.  
21 Present.

22 COUNCILMAN GREEN: Good  
23 morning.

24 THE CLERK: And Chair Green.

25 COUNCILMAN GREEN: I am present

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2 as well.

3 Thank you, all of my colleagues  
4 that are here. We are now -- I have a  
5 quorum of this Committee.

6 Would the Councilmembers who  
7 are present -- and this hearing is now  
8 formally called to order. This is a  
9 joint public hearing of the Committees on  
10 Finance and Transportation and Public  
11 Utilities regarding Resolution No.  
12 210653.

13 Mr. Iannuzzi, will you please  
14 read the title of the resolution.

15 THE CLERK: Resolution No.  
16 210653, resolution authorizing the  
17 Committee on Finance and the Committee on  
18 Transportation and Public Utilities to  
19 conduct joint hearings regarding the  
20 sustainability and diversification of the  
21 Philadelphia Gas Works.

22 COUNCILMAN GREEN: Thank you,  
23 Mr. Iannuzzi.

24 Before we begin to hear  
25 testimony from the witnesses we have here

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2 for today, everyone who has been invited  
3 to this meeting to testify should be  
4 aware that this public hearing is being  
5 recorded. Because the hearing is public,  
6 participants and viewers should have no  
7 reasonable expectation of privacy. By  
8 continuing to be in the meeting, you are  
9 consenting to being recorded.

10 Additionally, prior to  
11 recognizing members for questions or  
12 comments they have for witnesses, I will  
13 note for the record at this time that we  
14 will use the Chat feature available in  
15 Microsoft Teams to allow members to  
16 signify that they wish to be recognized.  
17 In order to comply with the Sunshine Act,  
18 the Chat feature must only be used for  
19 this purpose.

20 I know --

21 THE CLERK: Councilmember  
22 Green?

23 COUNCILMAN GREEN: Yes.

24 THE CLERK: I'm sorry. I was  
25 just going to add to the attendance list.

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2 I believe Councilmembers Jones and  
3 Gilmore Richardson have joined us.

4 COUNCILMAN GREEN: Okay. Thank  
5 you, and welcome, Councilmembers Jones  
6 and Gilmore Richardson.

7 At this point, I know that  
8 Councilmember Gym would like to make a  
9 comment.

10 COUNCILWOMAN GYM: Thank you  
11 very much, Mr. Chair. I wanted to make  
12 sure that it is an appropriate time, but  
13 I appreciate your allowing me some time.  
14 And I wanted to most of all thank you for  
15 reconvening this discussion to ensure  
16 that all stakeholders have an opportunity  
17 to have their voices heard on the  
18 critical issue of sustainability and  
19 diversification for PGW. I know that --  
20 and I'm very much looking forward to  
21 listening to the testimony today.

22 We have many goals that we have  
23 to meet, ensuring that all Philadelphians  
24 have the energy that they need for a  
25 dignified life at an affordable rate. We

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2 have to protect our residents' health.

3 We have a commitment to eliminate the use  
4 of fossil fuels by 2050, at a minimum,  
5 and we must protect and create and expand  
6 union jobs and ensure that workers aren't  
7 left behind.

8 But one of the things that's  
9 also really clear is, we have to reject  
10 the false choices that we can only  
11 achieve some of these goals or that these  
12 goals have to be sacrificed for  
13 timelines.

14 The objective here is to figure  
15 out how to accomplish these objectives  
16 together, ensuring that residents have  
17 affordable heating that doesn't harm our  
18 climate and pose health risks at the same  
19 time.

20 This is an extraordinarily  
21 complicated issue, there's no question,  
22 but that does not mean that we have the  
23 luxury to move slowly. Rather, we have  
24 to be more aggressive than ever and act  
25 with urgency in exploring and pursuing

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2 alternatives to meet our energy needs and  
3 to preserve a livable climate.

4 So what I'm looking forward to  
5 hearing from some of our testifiers today  
6 is what comes next. There's no question  
7 that PGW has to make investments this  
8 year to prepare for a networked  
9 geothermal pilot that focuses on  
10 identifying sites to maximize benefits to  
11 low-income Philadelphians, to  
12 neighborhoods in need, and maximizes the  
13 involvement of PGW workers and their  
14 union.

15 I'm also looking to hear about  
16 how PGW will establish and share a  
17 business plan that is actually aligned to  
18 the City's goal of reaching climate  
19 neutrality by 2050, and this should  
20 absolutely include interim targets and  
21 annual goals.

22 We are not going to get to a  
23 sustainable climate future without  
24 actually charting a path that includes  
25 specific actions and commitments along

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2 the way each and every year. No longer  
3 five-year, ten-year plans, but each and  
4 every year.

5 And, lastly, I want to address  
6 concerns that were raised in the last  
7 hearing. PGW is a municipally owned  
8 agency, and many of us on this Council  
9 body firmly believed in and fought for it  
10 to remain municipally owned. Part of the  
11 promise of our keeping a public utility  
12 was that it would be committed to working  
13 in alignment with the City's stated  
14 climate and energy goals and in the best  
15 interest of Philadelphia's future, not on  
16 behalf of its industry, not on behalf of  
17 lobbyists, and especially not on behalf  
18 of elected officials or entities outside  
19 of Philadelphia who are seeking to pass  
20 legislation that would preempt our rights  
21 and authority or run counter to our  
22 interests and stated goals.

23 Legislation like SB 275 in  
24 which PGW had active involvement is  
25 expressly against the City's best

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2 interest. It seeks to limit our  
3 authority as a municipality and prohibit  
4 our ability to enact future climate laws.

5 When we convened in February,  
6 PGW's leadership failed to make clear  
7 their commitment that moving forward,  
8 they would oppose efforts like SB 275  
9 that exist in contradiction to the City  
10 of Philadelphia. That has to change.  
11 PGW should come out publicly against  
12 efforts like SB 275, as this Council has,  
13 as our city has, and it must pass new  
14 policies that govern their responsibility  
15 and conduct to ensure that these types of  
16 actions no longer impact our city and our  
17 ability to chart our own future.

18 We are one city. We're one  
19 entity seeking common interest. I have  
20 yet to hear a commitment from PGW's  
21 leadership that they will take that  
22 mission seriously.

23 And so I'm looking forward to  
24 continuing this conversation, to  
25 listening to our panel testifiers, and

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2 want to express tremendous gratitude to  
3 the testifiers and to the public for  
4 keeping us on this mission.

5 Thank you very much.

6 COUNCILMAN GREEN: Thank you.

7 Before we start with the first  
8 witness, I want to thank the various  
9 participants who are here this morning  
10 and also thank all of the various  
11 individuals that participated in the  
12 diversification study.

13 We know that PGW is a unique  
14 entity. It is a large municipally owned  
15 gas utility definitely in this country,  
16 probably in North America, if not in the  
17 world. So we have a very challenging  
18 dynamic of how do we transition PGW from  
19 the entity that it currently is to an  
20 entity into the future, but at the same  
21 point, we also realize that we have a  
22 very significant moderate to income rate  
23 base in the City of Philadelphia who are  
24 PGW customers, many who are just learning  
25 about some of the opportunities that

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2 we're presenting for them, but also many  
3 of those same customers have challenges  
4 in just putting food on the table or  
5 making sure they have a sustainable home,  
6 as well as being able to provide for  
7 their family members and their relatives.

8 So we have a very challenging  
9 balance of how we move forward a utility  
10 that has a number of ratepayers who are  
11 moderate to low income, but at the same  
12 point, how do we move forward this entity  
13 and transform this entity going forward,  
14 as well as the fact that we have a  
15 unionized workforce that needs to  
16 maintain good family-sustaining wages as  
17 we go forward.

18 So this is a complex issue, a  
19 challenging issue. Very fortunate that  
20 we have in our city a number of  
21 individuals who are committed on  
22 addressing this issue and helping us to  
23 move Philadelphia Gas Works forward.

24 Some people may not realize  
25 that PGW started in 1836 really as a

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2 lighting company, where gas was used to  
3 really light the City, and it moved from  
4 a lighting company to being a heating  
5 company.

6 So the fact that this entity  
7 has already made two types of transitions  
8 given the perspective that in the history  
9 and DNA of PGW, we have transformed this  
10 entity. I look forward to this entity  
11 transforming again into a future that is  
12 much more sustainable with all of the  
13 complexities and challenges that we have  
14 before us.

15 So this is a complex challenge.  
16 The diversification study that PGW  
17 undertook, along with the Office of  
18 Sustainability as well as the  
19 Philadelphia Energy Authority, puts us on  
20 that path.

21 In addition, I believe that the  
22 Investment Infrastructure and Jobs Act  
23 provides another opportunity to provide  
24 additional resources and dollars to help  
25 move PGW forward.

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2 We've had a lot of different  
3 conversations and discussions regarding  
4 some of the ideas that came out of the  
5 diversification study. To me, the goal  
6 of this conversation is to continue that  
7 dialogue, and there's been other movement  
8 that's been happening within PGW to look  
9 at these opportunities going forward, as  
10 well as some other organizations that I  
11 think will help us principally with the  
12 geothermal initiative to help PGW move  
13 forward into that perspective.

14 So I thank you all for your  
15 commitment, investment of the most  
16 precious resource that you have, which is  
17 time, to this issue as we continue this  
18 conversation. So thank you all for being  
19 here for this conversation as we move  
20 forward with this morning's hearing.

21 With that, Mr. Iannuzzi, can  
22 you then please call our first witness  
23 that we have this morning for Resolution  
24 210653.

25 THE CLERK: Senator Nikil

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2 Saval.

3 COUNCILMAN GREEN: Senator  
4 Saval, thank you for being with us this  
5 morning. I know you have a lot of  
6 resources at the Commonwealth level, and  
7 hopefully you'll bring some of those  
8 resources here to Philadelphia. I know  
9 you are working on that in spite of some  
10 of the challenges you're dealing with  
11 other members of the General Assembly.

12 SENATOR SAVAL: Well, thank  
13 you, Mr. Chairman. We are indeed  
14 working. I appreciate the opportunity to  
15 speak with you all.

16 So thank you to the members,  
17 Councilmembers. Thank you to the members  
18 of the Finance and Transportation and  
19 Public Utilities Committee. It is a  
20 pleasure to be here with you all. Thank  
21 you so much for the invitation to be part  
22 of this.

23 As you know, my district lies  
24 entirely within Philadelphia County, and  
25 my work to meet the needs of Philadelphia

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2 residents directly intersects with yours,  
3 and I'm always grateful for opportunities  
4 to collaborate.

5 Specific to this morning,  
6 thinking critically on the future of PGW  
7 provides us with a whole unique  
8 opportunity to think toward deliberate  
9 action to build the world Philadelphia  
10 residents want, the world Philadelphia  
11 residents need.

12 For years, Philadelphia has had  
13 the heartbreaking distinction of being  
14 one of the poorest big cities in the  
15 United States, nearly a quarter of our  
16 residents living in poverty. As  
17 representatives elected to represent our  
18 people and our communities, I know this  
19 to be a fact, of course, of which you are  
20 all deeply aware and that you are  
21 committed to changing. I stand with you  
22 in the work of building communities in  
23 which all our residents have what they  
24 need to thrive, and I'm glad to be here  
25 to discuss my current initiative towards

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2 this end, which is passing the Whole-Home  
3 Repairs Act.

4 Our Commonwealth has some of  
5 the oldest housing stock in the nation.  
6 More than 280,000 occupied units in the  
7 Commonwealth have moderate to severe  
8 physical inadequacies, including leaky  
9 roofs or windows, blown fuses or exposed  
10 wiring, unreliable heat, or even the lack  
11 of a flushing toilet. These deferred  
12 maintenance issues endanger the health of  
13 the homes' residents, including through  
14 exposure to mold and lead. And these  
15 older homes are notoriously hard to keep  
16 warm in the winter and cool in the  
17 summer, with extreme temperatures putting  
18 residents at additional risk while  
19 simultaneously burdening them with  
20 crushing utility bills.

21 In Philadelphia, we know that  
22 low-income households spend an average of  
23 23 percent of their incomes on utility  
24 bills, while nearly three-quarters of  
25 low- to moderate-income households who

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2 apply for home repair loans are denied by  
3 conventional lenders, keeping residents  
4 trapped.

5 And our city is not an outlier.  
6 Across Pennsylvania, residents are  
7 struggling with increased extreme weather  
8 events, exacerbating the pace of the  
9 deterioration of our homes.

10 Our housing crisis, in other  
11 words, and our climate crisis are  
12 inextricable. The fight for affordable  
13 utilities, the fight for safe  
14 communities, the fight for housing  
15 security, and the fight for equity and  
16 justice in our systems are all the same  
17 fight.

18 This is the genesis of the  
19 Whole-Home Repairs Act, a sweeping  
20 bipartisan bill that I introduced to  
21 establish a one-stop shop for home  
22 repairs and weatherization, while  
23 creating new family-sustaining jobs in a  
24 growing field.

25 This bill is the first of its

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2 kind in the nation, allowing  
3 Pennsylvanians to stay warm, safe, and  
4 dry in homes they can afford and  
5 providing communities with the means to  
6 fight the devastating effects of  
7 displacement, instability, and blight all  
8 at once.

9 In short, the goal of the  
10 Whole-Home Repairs Act is to make our  
11 communities resilient. It works by doing  
12 three things. It funds habitability  
13 repairs and energy efficiency updates for  
14 homes throughout Pennsylvania by  
15 providing homeowners and small landlords  
16 with up to \$50,000 to repair their homes.

17 It funds support staff to help  
18 people access the assistance they need in  
19 the order in which they need it,  
20 maximizing the amount of funding they can  
21 get for their home.

22 Finally, it funds training  
23 programs and provides stipends to  
24 trainees to build up a local workforce  
25 needed to meet the growing demand for

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2 labor, and by doing so, it will ensure  
3 the creation of new jobs for our  
4 residents.

5 This bill will benefit hundreds  
6 of thousands of Pennsylvania residents,  
7 including many who live right here in our  
8 city.

9 I know that each and every City  
10 Councilmember rejects poverty as a  
11 defining characteristic of our city, and  
12 to change this paradigm, we must take  
13 bold action. We need investment in our  
14 communities. We need money with no  
15 strings attached to go to low-income  
16 households to alleviate their energy  
17 burdens and make their homes safe to live  
18 in, not burden them with more debt.

19 We can push back against  
20 poverty by infusing our communities with  
21 the funding they need to become  
22 resilient.

23 People across the country are  
24 struggling under the protracted hardships  
25 of the pandemic, and Pennsylvania can be

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2 a national leader in helping our  
3 residents recover. We can fix our homes  
4 and we can build our local workforce and  
5 create new jobs while we do it. We can  
6 permanently move the needle on our  
7 affordable housing crisis and our climate  
8 crisis. The Whole-Home Repairs Act makes  
9 this possible.

10 I want to acknowledge in  
11 concluding here Councilmembers Gilmore  
12 Richardson and Parker, who introduced the  
13 resolution for Philadelphia's support for  
14 the Whole-Home Repairs Act, and I extend  
15 my deep and sincere gratitude to all of  
16 City Council for passing this resolution.

17 I also want to acknowledge your  
18 leadership, Mr. Chairman, in your support  
19 of Philadelphia Energy Authority's Built  
20 to Last program on which my bill has been  
21 modeled. Your leadership and support  
22 have been invaluable.

23 I look forward to the work  
24 we'll do together to fight housing  
25 insecurity, to fight environmental and

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2 climate injustice, and to fight against  
3 the systems that have kept Philadelphians  
4 locked in generational poverty.

5 I welcome any questions that  
6 you have on this bill and on this work.

7 Thank you. Thank you for the  
8 opportunity to be here.

9 COUNCILMAN GREEN: Thank you,  
10 Senator Saval.

11 I also want to note for the  
12 record that Councilmember Maria  
13 Quinones-Sanchez is also with us.

14 And you must have been reading  
15 my notes, because my question to you was  
16 in reference to Built to Last and the  
17 initiative that we've been doing here in  
18 the City of Philadelphia with  
19 Philadelphia Energy Authority, which  
20 really was an initiative to how do we  
21 take all the various programs that we  
22 have in the City of Philadelphia, and  
23 from a constituent, they may qualify for  
24 BSRP or Heater Hotline or LIHEAP, but  
25 they may have other issues in their home

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2 that also needs to be addressed. And so  
3 the Built to Last program was an  
4 initiative to try to bundle all those  
5 various programs but also bring in some  
6 additional dollars, and Senator Casey  
7 also provided some significant dollars  
8 for the Energy Authority to really get  
9 Built to Last up and running.

10 I guess my question is from  
11 Built to Last to what you're doing with  
12 your initiative and legislation, how will  
13 that help and how will those programs  
14 work together collectively here in  
15 Philadelphia?

16 SENATOR SAVAL: So thank you,  
17 Mr. Chairman. It's a very good question.  
18 I think we have -- essentially, as I  
19 mentioned, the Whole-Home Repairs Act is  
20 very much inspired by the model of Built  
21 to Last. So, again, thank you for your  
22 leadership on that and to the  
23 Philadelphia Energy Authority, which is  
24 supportive of the legislation.

25 What our bill would do is

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2 essentially scale up both the initiatives  
3 that we have in Philadelphia and, of  
4 course, extend them across the state  
5 where they're more or less unavailable to  
6 the degree that we even have support here  
7 in Philadelphia.

8 So the state Whole-Home Repairs  
9 Act would offer a significant additional  
10 funding source for Basic Systems Repair.  
11 It would actually make more money  
12 available. It would also extend the  
13 program to low-income and moderate-income  
14 tenants, which it is not currently --  
15 which is not currently available. So  
16 landlords would be -- small landlords  
17 would be -- would have access to this  
18 money in the form of a forgivable loan,  
19 which would be contingent on some  
20 affordability restriction, but it would  
21 be \$50,000 per tenant.

22 So Philadelphia Energy  
23 Authority, we've spoken with them about  
24 the legislation. They believe they can  
25 sort of layer on some of their further

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2 initiatives around reducing energy  
3 burdens, around making it possible, for  
4 example, for some -- to replace older  
5 heaters, to replace knob and tube wiring,  
6 et cetera, in addition to all the  
7 coordination that we want to do. They  
8 sort of imagine that this would be able  
9 to allow them to sort of scale up the  
10 program as they currently have it.

11 So basically this would provide  
12 a significant additional boost in  
13 funding, allow us to do many more houses  
14 and at a scale that we currently are not  
15 able to do it for homeowners as well as  
16 for tenants.

17 COUNCILMAN GREEN: And one of  
18 the aspects of this conversation  
19 regarding diversification is that we need  
20 to make people's homes more sustainable  
21 so they have a lesser need for energy,  
22 and I think your legislation, along with  
23 Built to Last, is one significant step in  
24 that regard.

25 Have there been other

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2 jurisdictions around the Commonwealth  
3 that are familiar with this legislation  
4 that could be supportive? I'm thinking  
5 of the fact that through my term as  
6 President of Pennsylvania Municipal  
7 League, there are a number of cities  
8 around the Commonwealth, and I'm thinking  
9 of Mayor Paige Cagnetti in Scranton or  
10 Danene Sorace in Lancaster or Mayor Derek  
11 Slaughter in Williamsport. All are  
12 cities that are smaller in size than the  
13 City of Philadelphia, but many of the  
14 cities in the Commonwealth of  
15 Pennsylvania are third-class cities that  
16 have roughly about 100,000 residents but  
17 have a lot of the same or similar issues  
18 that we have in Philadelphia with very,  
19 very old housing stock and many citizens  
20 who are moderate- to low-income who may  
21 not have the resources to make their home  
22 more sustainable to look at ways of  
23 diversifying the energy that they're  
24 using.

25 So has there been any outreach

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2 from your understanding? I know this  
3 legislation is bipartisan, so hopefully  
4 that's also getting the word out to those  
5 cities about how they can be supportive  
6 and maybe pass a resolution like we've  
7 done in Philadelphia to support your  
8 legislation.

9 SENATOR SAVAL: Thank you,  
10 Mr. Chairman. It's an excellent point,  
11 and I think it would be very welcomed.

12 So I'll just mention that in  
13 launching the legislation, we did travel,  
14 sort of road show, for Whole-Home  
15 Repairs. We went to Reading, Lancaster,  
16 Allentown, in addition to Philadelphia,  
17 and we have support in those areas from a  
18 number of different kind of  
19 organizations, groups, residents and the  
20 like, but in addition, among the kind of  
21 bipartisan -- among the legislators in  
22 the General Assembly who have supported  
23 this legislation represent some of the  
24 various cities that you're talking about.

25 So, for example, Senator

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2 Patrick Browne who represents Allentown,  
3 who is also the Majority Chairman of the  
4 Appropriations Committee, he was the  
5 first republican to sign on in support of  
6 the legislation. Senator Dan Laughlin,  
7 who represents Erie County and of course  
8 the City of Erie, also supportive of this  
9 legislation. Senator Elder Vogel, who  
10 represents parts of Western Pennsylvania,  
11 a number of smaller townships and  
12 boroughs out there, and Senator David  
13 Argall, who actually has worked on this  
14 and represents Schuylkill County, but has  
15 worked on this across the state, issues  
16 of this kind, also is supportive of this.

17 So we have a lot of the kind of  
18 legislators who are supportive of this  
19 issue, but you're quite right, it would  
20 actually be in addition to the support in  
21 the General Assembly having councils and  
22 the like, city councils following the  
23 lead of Philadelphia would be welcomed.

24 We have had some outreach from  
25 the administration in Scranton and we've

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2 had outreach from, for example, the  
3 Meadville City Council in Crawford  
4 County.

5 So there is interest, and I  
6 think it would be welcomed. We'd love to  
7 pursue that and think through that with  
8 you in terms of listening support and  
9 resolutions from those Councils. So I  
10 think it's a very good idea.

11 COUNCILMAN GREEN: Well, thank  
12 you. And what I will do is at our next  
13 executive committee meeting, which will  
14 be in May, I'll bring this up to the  
15 Pennsylvania Municipal League to see if  
16 we can get the League to be supportive of  
17 your legislation, especially considering  
18 that some of the mayors of our executive  
19 committee are mayors of cities that  
20 you've already visited. So we will move  
21 forward in that regard.

22 I'd like to recognize  
23 Councilmember Jones for comments.

24 COUNCILMAN JONES: Thank you,  
25 Mr. Chairman.

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2 And to our esteemed panelist, I  
3 do own a suit, but it is my annual Block  
4 Captains Boot Camp and I will be required  
5 to do duties such as unpacking tables.  
6 So I wanted to be a part of this  
7 nonetheless.

8 I want to first recognize our  
9 Chairman for his work within the Gas  
10 Commission and being very focused on how  
11 we move the entity into the future. He  
12 was a part of the work to prevent  
13 privatization of the facility way back  
14 now, but as we move forward, we went from  
15 the preferable fossil fuel to -- we've  
16 evolved to, well, maybe we should look at  
17 other alternatives.

18 I just want to know in light of  
19 the global marketplace, with Russia  
20 cutting off Europe and other areas with  
21 natural gas, what does that do and how  
22 does that pressure production  
23 domestically and what will -- I've  
24 noticed by way of production of oil,  
25 environmentalists took a back seat to the

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2 pressures of keeping gas prices down.

3 Do you anticipate any similar  
4 actions when it comes to natural gas?

5 SENATOR SAVAL: Councilmember,  
6 is that question for me, addressed to --

7 COUNCILMAN JONES: It's for  
8 whoever has the foresight to answer.

9 SENATOR SAVAL: Well, just  
10 speaking to the -- one of the things that  
11 I in the legislation that we are  
12 considering -- I mean, I think we want to  
13 reduce energy use across the board. So  
14 we would want to -- the Whole-Home  
15 Repairs Act in particular, again  
16 following the model that we have started  
17 to establish here in Philadelphia, would  
18 just reduce energy burdens, especially --  
19 in particular for low- to moderate-income  
20 homeowners and tenants across the board.

21 So reliance on gas altogether  
22 or reliance on -- for example, many  
23 people may not even have access to gas  
24 heaters and may be using space heaters  
25 and the like. So I think that we have --

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2 which is itself potentially very  
3 dangerous, not an efficient way to heat  
4 your home, can offer result in high  
5 electricity bills and the like. We want  
6 to reduce energy burdens across the  
7 board.

8 So I think that that is good  
9 for the climate, that is good for low- to  
10 moderate-income homeowners, and that is  
11 good in sort of geopolitical terms as  
12 well. I think that all of us across the  
13 board, we want to be reducing our energy  
14 use, our energy burdens, most of all  
15 because people are struggling to pay  
16 their bills, and I think that our  
17 initiative would play a major role in  
18 accomplishing that.

19 COUNCILMAN JONES: Thank you,  
20 Mr. --

21 COUNCILMAN GREEN: Thank you --  
22 I'm sorry. Councilman Jones, did you  
23 have a follow-up?

24 COUNCILMAN JONES: No. Thank  
25 you, Mr. Chairman. I just wanted to get

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2 that -- I understand the micro and the  
3 macro. The less we use at the urban and  
4 at-risk levels, the more we keep people  
5 in homes. Energy utility bills will make  
6 you as homeless as not paying your  
7 mortgage, I get it, but as we look to the  
8 future, we have to look as well globally  
9 to see if there is going to be a greater  
10 demand worldwide and what that does to  
11 us.

12 COUNCILMAN GREEN: Thank you,  
13 Councilmember Jones, and I think there  
14 are some other panelists that when they  
15 have a chance to speak may also be able  
16 to touch on the question that you  
17 presented during their presentation  
18 during their panel.

19 COUNCILMAN JONES: Thank you,  
20 Mr. Chairman.

21 COUNCILMAN GREEN: Thank you.  
22 Are there any other questions  
23 from members of Council for Senator  
24 Saval?

25 (No response.)

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2 COUNCILMAN GREEN: Seeing none,  
3 I'd also like to note for the record that  
4 Councilmember David Oh is also present  
5 for this hearing. So thank you,  
6 Councilmember Oh.

7 Senator Saval, thank you for  
8 your work and leadership. This  
9 initiative that you are doing is very  
10 important, because as we're looking to  
11 not only diversify PGW, the opportunity  
12 for other constituents around the  
13 Commonwealth of Pennsylvania to have a  
14 more sustainable home is important, and  
15 the work you're doing with your  
16 legislation will make that happen, so  
17 that way, they will be using less energy  
18 and will have a better opportunity to  
19 diversify their own energy, even though  
20 it may not be coming from PGW.

21 So thank you for your  
22 leadership. Look forward to working with  
23 you and getting support for your  
24 legislation through the Pennsylvania  
25 Municipal League. So thank you for being

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2 with us this morning.

3 SENATOR SAVAL: Thank you,  
4 Mr. Chairman. Thank you for the  
5 opportunity.

6 Thank you, Councilmembers, for  
7 your time. Looking forward to working  
8 with all of you.

9 Thank you again.

10 COUNCILMAN GREEN: Thank you.

11 Mr. Iannuzzi, could you call  
12 the next panel of witnesses to testify  
13 regarding the resolution.

14 THE CLERK: Bishop Dwayne  
15 Royster, Peter Winslow, Steve Luxton,  
16 Kinteshia Scott.

17 COUNCILMAN GREEN: Thank you,  
18 all of you, for being here this morning,  
19 and we will proceed in that order, with  
20 Bishop Royster. If you could just state  
21 your name for the record and then proceed  
22 with your testimony.

23 BISHOP ROYSTER: Yes. My name  
24 is Bishop Dwayne Royster, Executive  
25 Director of POWER Interfaith.

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2 Chairman Green and  
3 Councilmembers that are present here with  
4 us here today as well as the citizens of  
5 Philadelphia, I'm Bishop Dwayne Royster,  
6 Executive Director of POWER Interfaith,  
7 the State of Pennsylvania's largest  
8 faith-based organizing movement. POWER  
9 is a multi-racial, multi-faith,  
10 multi-issue organizing movement working  
11 for racial and economic justice on a  
12 livable planet. We were founded and are  
13 still deeply rooted to this date in the  
14 City of Philadelphia.

15 The members of and the leaders  
16 of POWER have a PGW Just Transition  
17 Strategy Team that have been working with  
18 allies across the City to win policies  
19 that turn PGW into a company that  
20 provides heating and cooling without the  
21 use of fossil fuels at a pace that  
22 matches the urgency of the climate  
23 crisis, guarantees all Philadelphians the  
24 energy they need at rates they can  
25 afford, protects the public health,

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2 preserves and creates good union jobs.

3 At the same time, we're working  
4 to guarantee everyone healthy, affordable  
5 homes. Senator Saval's Whole-Homes  
6 Repair Act is a key part of that effort,  
7 and we are part of the coalition that is  
8 working to pass that bill.

9 We've often been told that we  
10 need to choose between essential needs,  
11 that we can't ensure affordability and  
12 enact rapid shift from fossil fuels to  
13 renewable energy at the same time or that  
14 we can't protect workers while averting  
15 climate catastrophe. We reject those  
16 false choices. We can and must establish  
17 policies that accomplish all of these  
18 goals.

19 The crisis we face here in the  
20 City of Philadelphia - poverty, violence,  
21 unaffordable energy bills, asthma,  
22 accelerating climate change and so much  
23 more - are interrelated. All of these  
24 challenges can present us with a sense of  
25 hopelessness, but as my good friend

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2 Reverend Alvin Herring said, his momma  
3 told him, when you show up like hope,  
4 people will give you their hopelessness.

5 We need comprehensive solutions  
6 that show up like hope.

7 Twenty-some-odd years ago when  
8 I bought my -- twenty-five years ago when  
9 I bought my first house here in the City  
10 of Philadelphia on the 5600 block of  
11 Wyalusing Avenue in West Philadelphia in  
12 Councilman Jones' district, I bought the  
13 two-and-a-half-story row house that was  
14 in the middle of the block, and I was so  
15 proud at the time of my mid 20's buying  
16 my very first house. I was so excited,  
17 five bedrooms, three bathrooms in the  
18 house, things that you often don't see in  
19 houses in Philadelphia.

20 But the challenge came that  
21 winter. I bought the house in the  
22 summer. The challenge came that winter  
23 when I got my first PGW bill that was two  
24 and a half times the size of my mortgage.  
25 If I told you that my first bill in 1995

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2 was \$800 because of the house that was  
3 built in 1865 that was not weatherized,  
4 didn't have the things that they needed.

5 I began as a result of that  
6 process over the course of the next few  
7 years while I lived and owned that house,  
8 struggled financially to be able to keep  
9 up with the utility payments and maintain  
10 the house at the same time. There were  
11 times when the utilities were actually  
12 cut off because we could not afford the  
13 bills to be able to maintain that.

14 The challenge is is that folk  
15 are still dealing with those same issues  
16 in Philadelphia today. Some almost  
17 30 years later actually -- I have to do  
18 better with my math. Some 30 years  
19 later, folk are still struggling with  
20 those same issues.

21 We are seeking investments that  
22 make life better for the working class  
23 majority, especially African American,  
24 Latinx, Asian Pacific Islanders,  
25 indigenous folk, biracial folk who are

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2 harmed most by current policies, while  
3 protecting a livable climate. We're  
4 aiming to build a healthier, safer city  
5 with affordable energy bills, comfortable  
6 home, more good jobs, and we're not  
7 asking our city to sacrifice for the sake  
8 of the planet. The fact that PGW is  
9 publicly owned gives us a huge  
10 opportunity, and we must take it.

11 We appreciate the PGW business  
12 diversification study published in  
13 December, but it falls far short of  
14 outlining clear pathways for transforming  
15 the utility. It's almost as if we're  
16 afraid to transform the utility.

17 We need a comprehensive,  
18 transparent process for planning PGW's  
19 future as we do for Philadelphia's  
20 future, and we need you, City Council, to  
21 mandate through legislation that PGW's  
22 budgets and business plans match the  
23 City's climate goals.

24 On the way to that longer-term  
25 objective, we bring a couple of urgent

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2 requests to you today.

3 First, we need your immediate  
4 action to advance the most promising  
5 option for PGW that is identified in the  
6 business diversification report - thermal  
7 networks, also known as networked  
8 geothermal heating and cooling systems.  
9 By building and operating electric power  
10 thermal networked systems, PGW can  
11 provide affordable heating and cooling  
12 without fossil fuels and preserve good  
13 union jobs. Let me just say this again.  
14 You can provide affordable heating and  
15 cooling without fossil fuels and preserve  
16 good union jobs.

17 Now, we recognize this is not a  
18 complete solution, but it holds a great  
19 deal of promise, and we need to get  
20 moving on it now. We know how things  
21 take sometimes years, decades to be able  
22 to come to fruition. We need to make  
23 sure that we start doing this today.

24 Secondly, we need to begin  
25 planning thermal networked pilot projects

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2 as soon as possible, and we need to  
3 ensure that the planning is done in a  
4 transparent, participatory manner. The  
5 only way City Council can assure that  
6 happens is by requiring that the  
7 necessary funds be allocated specifically  
8 for these purposes.

9 Third, in June, Council will  
10 vote on an ordinance to approve PGW's  
11 financial year 2023 capital budget. As a  
12 part of that ordinance, POWER and 33  
13 other organizations are asking Council to  
14 require PGW to allocate \$500,000 to  
15 advanced engineering work that is needed  
16 to plan thermal networked pilot projects.  
17 We're looking forward to talking more  
18 with Councilmembers about this request in  
19 the weeks to come.

20 And, fourth, we do not support  
21 the other projects named in the business  
22 diversification report. We ask that  
23 Council not support on-bill financing for  
24 weatherizing low-income residents' homes,  
25 though of course weatherization is

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2 extremely important. That's why we  
3 support Senator Saval's bill. And we do  
4 not support pilot projects that advance  
5 the use of renewable natural gas in PGW's  
6 network. These are false solutions, and  
7 you'll hear more from other speakers  
8 about this today.

9 We need transparency and  
10 accountability from PGW and democratic  
11 participation in PGW's governance.  
12 Though PGW is a public company owned 100  
13 percent by Philadelphia and, therefore,  
14 owned 100 percent by Philadelphians,  
15 managers fail to provide essential  
16 information and seek to exclude the  
17 public from participating in decisions.

18 It's important for all  
19 Councilmembers to know that PGW has just  
20 again asked the Philadelphia Gas  
21 Commission to change its budget review  
22 process to block interveners like POWER  
23 from cross-examining PGW witnesses and  
24 requesting documents from PGW.

25 PGW made a similar attempt to

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2 block POWER from fully participating in  
3 the capital budget review process earlier  
4 this year. These attempts by PGW to  
5 fight transparency and public  
6 participation are unacceptable.

7 Secondly, the City should  
8 clearly and unambiguously instruct PGW to  
9 stop trying to restrict public  
10 participation in its budget proceedings  
11 and to welcome it instead, because  
12 navigating a just transition for PGW will  
13 take all of us to be able to make it  
14 happen.

15 This is a critical moment. In  
16 key speeches in the 1960s, Dr. King  
17 constantly invoked this theme of the  
18 fierce urgency of now. That phrase  
19 applies here in 2022.

20 The climate crisis is  
21 intensifying, and those who have the  
22 least wealth and power are harmed the  
23 most. Now is the moment for fierce  
24 urgency, and we are counting on your  
25 leadership to do the right thing.

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2 Thank you very much. I  
3 appreciate the opportunity to come and  
4 share this day.

5 COUNCILMAN GREEN: Thank you,  
6 Bishop Royster, for your testimony and  
7 being so personal in providing that  
8 information. That's something that many  
9 citizens in the City of Philadelphia are  
10 dealing with.

11 We're going to hear from all  
12 the witnesses and then we'll then have  
13 Councilmembers ask questions, and we'll  
14 acknowledge Councilmember Bass has the  
15 first question from members of Council.

16 Peter Winslow, then Steve  
17 Luxton, and then Kinteshia Scott.

18 Mr. Winslow, you are muted.

19 MR. WINSLOW: Can you hear me  
20 now, Chairman Green?

21 COUNCILMAN GREEN: We can hear  
22 you. Thank you.

23 MR. WINSLOW: My name is Peter  
24 Winslow, P-E-T-E-R, W-I-N-S-L-O-W. I'm a  
25 resident of Northwest Philadelphia.

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2 Thank you, Chairman Green and members of  
3 the Joint Committee, for this opportunity  
4 to speak with you regarding  
5 sustainability and diversification with  
6 respect to the Philadelphia Gas Works. I  
7 appreciate and thoroughly endorse the  
8 comments that have been made by  
9 Councilmembers Gym, Green, and Jones, by  
10 Senator Saval and by Bishop Royster.  
11 I'll do my best not to be repetitive.

12 Today I'll leave to others  
13 discussion of the opportunities provided  
14 by geothermal and other technologies.  
15 Instead, I'll focus on diversification of  
16 PGW business models and on  
17 sustainability, for PGW as a business,  
18 for Philadelphians as PGW customers, and  
19 for society overall in response to  
20 climate destruction. I will offer three  
21 specific suggestions for your  
22 consideration.

23 1 Rivet is a Virginia-based  
24 consulting firm. 1 Rivet worked with the  
25 PGW executive and senior management team

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2 to develop a new mission and vision  
3 statements for the company. The newly  
4 defined mission is to, quote, "Enhance  
5 the quality of life and promote business  
6 development in our community by meeting  
7 Philadelphia's energy needs," unquote.

8 Thank you, PGW. Meeting  
9 Philadelphia's energy needs, that's  
10 succinct. Congratulations, PGW. With  
11 the help of 1 Rivet, you have crafted a  
12 mission statement to motivate your  
13 employees, elevate your customers, and  
14 inform your strategic thinking.

15 So here's the new vision: to,  
16 quote, "Provide a pathway to a thriving  
17 and cleaner future through innovative  
18 energy solutions," close quote.

19 Thanks again. The new vision  
20 statement describes the transition from  
21 reliance on fossil fuels that the  
22 environmental justice community is  
23 demanding.

24 Since we all share the values  
25 that underlie these new statements of

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2 mission and vision for PGW, we should now  
3 be collaborating to analyze our problems,  
4 to explore our opportunities, to find  
5 mutually agreed-upon solutions. So why  
6 does the environmental justice community  
7 feel that this conversation is  
8 confrontational rather than  
9 collaborative? Why is PGW resisting  
10 rather than leading changes and  
11 innovations? Why isn't PGW more  
12 transparent and more forthcoming in  
13 sharing information with the public? Why  
14 does PGW lobby Harrisburg to preempt the  
15 City when the City is PGW's owner?

16 Perhaps a reason is that PGW  
17 has not yet embraced the new mission and  
18 vision statements.

19 Indeed, PGW clings to its old  
20 mission to be, quote, "A financially  
21 viable enterprise providing safe,  
22 reliable, natural gas service," unquote.

23 PGW puts itself, instead of our  
24 community, at the center of its mission.  
25 In fact, people, customers, the needs of

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2 Philadelphia are not even mentioned.

3 In similar fashion, the old  
4 vision is to be, quote, "The industry  
5 leader in customer service and  
6 operational excellence," unquote. Again,  
7 PGW is self-referential. Furthermore,  
8 PGW reviews itself in relation to its  
9 peers rather than to Philadelphians.

10 Google PGW mission statement  
11 and vision statement and you get the old  
12 versions. Search the PGW website for  
13 mission statement or vision statement and  
14 you get nothing.

15 PGW promotes itself as an  
16 environmental steward and an energy  
17 access advocate, committed to  
18 contributing to a clean climate and  
19 minimizing its overall carbon footprint.  
20 But the product PGW sells is methane, a  
21 potent greenhouse gas. As long as PGW is  
22 a purveyor of fossil fuels, it will be  
23 exacerbating the climate problem, not  
24 contributing to the climate solution.

25 Parroting gas industry

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2 propaganda, PGW describes gas as a bridge  
3 fuel. If there is a bridge, what is on  
4 the other side? What off-ramp is PGW  
5 building?

6                   Until PGW decides to help  
7 create a future in which Philadelphians  
8 are not dependent on the use of fossil  
9 fuels, PGW messaging will seem  
10 fundamentally inconsistent, frequently  
11 incoherent, and often disingenuous. PGW  
12 needs to end its ambivalence concerning  
13 its identity and purpose.

14                   So my first suggestion is,  
15 adopt the new mission and vision  
16 statements. Note that unlike the old  
17 version, the new mission statement  
18 doesn't use the word "gas."

19                   So my second suggestion is,  
20 remove the word "gas" from the PGW name.  
21 Keep the G and the logo. Hold a contest  
22 for Philadelphians to offer and then vote  
23 on a replacement name, like  
24 Philadelphia's Greatest Workplace, or  
25 simply leave the initials, as in PGW

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2 Energy Services.

3 The cost of these two changes  
4 will be insignificant. The benefits of  
5 these two changes will be substantial.  
6 The implications of these two changes  
7 will be profound.

8 As a business, PGW is currently  
9 product driven. The product that drives  
10 PGW is gas. PGW derives its revenue from  
11 the sale of a single product. The old  
12 vision is limited to the sale of gas with  
13 the goal of remaining a financially  
14 viable enterprise. And financial  
15 viability is assured by the rate  
16 structure approved by the Pennsylvania  
17 Public Utilities Commission. PGW is a  
18 quasi-monopoly. PGW is not a complete  
19 monopoly because the Pennsylvania's Gas  
20 Choice program allows customers to choose  
21 a natural gas supplier other than PGW.  
22 But like PGW, all the gas suppliers  
23 approved by the PUC are using the same  
24 product-driven business model.

25 As a marketing strategy to

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2 obtain and retain customers, PGW provides  
3 EnergySense programs, rebates, and  
4 financial incentives. Replacement of  
5 building heating and water heating  
6 equipment, installation of smart  
7 thermostats and roof insulation,  
8 weatherization and other energy  
9 conservation measures are part of the  
10 value proposition PGW promotes to its  
11 customers. Irrespective of societal  
12 desirability of these measures, within  
13 the context of understanding the PGW  
14 business model, their purpose is to  
15 maintain the base of customers who  
16 consume their gas product.

17 So my third suggestion is,  
18 develop new business models based on  
19 meeting Philadelphia's energy needs  
20 through innovative energy solutions.

21 Once PGW becomes mission driven  
22 rather than product driven, energy  
23 efficiency and renewable energy will be  
24 the means to provide PGW customers with  
25 the heating, cooling, cooking, and other

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2 services that enhance the quality of life  
3 in our community. Instead of remaining a  
4 marketing tool, energy efficiency will  
5 become a revenue source.

6 The kind of sustainable  
7 business model that PGW could adapt is  
8 provided by the Metered Energy Efficiency  
9 Transaction Structure, called MEETS.  
10 MEETS was designed to directly address  
11 the utility death spiral that PGW is  
12 already in. Falling unit sales lead to  
13 increased rates, are needed to cover  
14 fixed costs. Higher prices make gas  
15 unaffordable for lower-income people and  
16 drive away customers to lower-cost  
17 alternatives, leading to further loss of  
18 unit sales. The death spiral makes the  
19 current PGW business model unsustainable.

20 In a similar way, networked  
21 geothermal and community PV solar systems  
22 offer opportunities to employ business  
23 models that monetize renewable energy.  
24 From an economic perspective, employing  
25 these technologies results in turning the

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2 uncontrollable, variable cost of fuel  
3 paid for over time into the identified,  
4 fixed cost of equipment paid for up front  
5 with financing that can be amortized.

6 For PGW to transition from  
7 being a purveyor of fossil fuels to  
8 becoming a provider of energy efficiency  
9 and renewable energy, PGW will need to  
10 develop and transition to new business  
11 models. PGW should be planning this  
12 transition now. PGW needs to study  
13 implementation strategies, not  
14 feasibility. PGW needs to conduct pilot  
15 projects, not demonstration projects.

16 Transition will require  
17 substantial investment. PGW is not a  
18 financial institution. PGW cannot  
19 finance its transition on its own.

20 The Whole-Home Repair Act  
21 proposed by Senator Saval can help  
22 weatherize our homes and assure that our  
23 row house roofs can safely carry the load  
24 of photovoltaic solar panels. The  
25 building energy performance policies

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2 developed by our Office of Sustainability  
3 can point the way toward energy  
4 efficiency. Federal programs from the  
5 Department of Housing and Urban  
6 Development and other programs can help.

7 Moreover, investments in energy  
8 efficiency and renewable energy pay for  
9 themselves over time. Consumers save  
10 money, provided money is available to  
11 make the investments. Where will PGW and  
12 its customers obtain the money needed to  
13 effectuate the transition?

14 Well, you, our City Council,  
15 brought the Philadelphia Public Financial  
16 Authority into existence on March 17th.  
17 You're currently in the process of  
18 proposing people from community  
19 stakeholder groups for Mayor Kenney to  
20 appoint as members of the Board for the  
21 Financial Authority. You're currently in  
22 the process of providing funds in the  
23 next City budget for that Board to start  
24 up the Financial Authority, \$3 million to  
25 become self-sustaining. You'll be

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2 authorizing the capitalization of the  
3 Financial Authority, \$75 million to seed  
4 programs that will fill gaps in the  
5 availability of credit and promote a  
6 fairer financial ecosystem for  
7 Philadelphians.

8 PGW should partner with the new  
9 Financial Authority. Together with the  
10 Philadelphia Energy Authority and its  
11 affiliate, the Philadelphia Green Capital  
12 Corp, and along with the many other  
13 institutions that are dedicated to the  
14 vitality of our city, we have ample  
15 capacity to finance the PGW transition.

16 Does the City Council, the Gas  
17 Commission, the Philadelphia Facilities  
18 Management Corporation, and the PGW  
19 executive team have the foresight and  
20 courage to join the people of  
21 Philadelphia in creating a pathway to a  
22 thriving and cleaner future through  
23 innovative energy solutions?

24 If you do, I suggest PGW start  
25 without further delay by taking three

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2 simple steps:

3 One, embrace your new mission  
4 and vision statements.

5 Two, cease being a gas company.

6 Three, begin the transition.

7 Thank you for your  
8 consideration of my suggestions.

9 MR. MICHELS: You're muted, Mr.  
10 Chairman.

11 COUNCILMAN GREEN: I'm sorry.  
12 The next panel -- our next witnesses, I'm  
13 sorry, is Steve Luxton and then Kinteshia  
14 Scott.

15 MR. LUXTON: Good morning,  
16 Chairman Green, Councilmembers,  
17 colleagues, attendees. I am the CEO of  
18 ECA, and we are this unique entity in the  
19 City of Philadelphia in that we provide  
20 multiple services, primarily to the low-  
21 to moderate-income communities in  
22 Philadelphia, and we've been doing that  
23 for 38 years.

24 I personally have been in  
25 low-income residential energy efficiency

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2 for 27 years. I've worked all over the  
3 country, and I worked in many energy  
4 efficiency programs and have also  
5 developed energy audit software. So I'm  
6 very proud to say I'm a building  
7 scientist in addition to the leader of  
8 ECA, and as a result, ECA will typically  
9 get into or touch about 6,000 low-income  
10 households annually in the City of  
11 Philadelphia.

12 We run the Heater Hotline,  
13 which is a program that will allow us to  
14 fix a heater for a low-income family that  
15 cannot afford to hire a contractor, and  
16 we will repair it, and if we can't repair  
17 it, then we will do our best to get them  
18 into the federally funded program through  
19 the Department of Health and Human  
20 Services, the LIHEAP Crisis, and that  
21 program allows us to replace heater  
22 systems as well.

23 So in a typical year, ECA will  
24 replace upwards of 800 to 1,000 heating  
25 systems. We're also the sole

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2 weatherization provider in the State of  
3 Delaware as well. Our experience is most  
4 likely unparalleled when it comes to  
5 expertise in a low-income household in  
6 terms of its physical condition.

7 So my main thrust here is --  
8 COUNCILMAN GREEN: Mr. Luxton,  
9 hold on one second.

10 Anyone that's not speaking,  
11 please put your microphone on mute. The  
12 only person that should have the  
13 microphone open is Mr. Luxton. Everyone  
14 else should be muted.

15 Please proceed, sir.

16 MR. LUXTON: Okay.

17 Given the extensive experience  
18 I and ECA have in low-income households,  
19 we identified a long time ago that most  
20 of these homes that we perform work in,  
21 whether it be fixing the heating system  
22 and/or making the home more energy  
23 efficient in an effort to reduce the  
24 extremely high energy burden in  
25 Philadelphia, 23 percent, we recognize

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2 that home repair has to be built into  
3 these programs. These homes, as I said,  
4 need more than insulation and caulking  
5 and so on. They need home repair.

6 Philadelphia is estimated to  
7 have 330,000 row homes, and virtually  
8 every one of those homes has a flat roof,  
9 and flat roofs are conducive to water  
10 infiltration, unfortunately, because  
11 water is allowed to sit on them and  
12 infiltrate, and because of the lack of  
13 attics, most folks don't know they have a  
14 roof leak until it finally reveals itself  
15 in the form of a big water stain  
16 somewhere in the ceiling or in a wall in  
17 a home, and at that point, damage has  
18 already happened in terms of creating  
19 potential mold, wood decay, mildew, et  
20 cetera. And aside from the BSRP program,  
21 there really is no other opportunity for  
22 folks to get their home repaired. So ECA  
23 created the Energy Philly program about  
24 ten years ago, and essentially the  
25 concept is exactly what Built to Last was

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2 modeled on, which then in turn went to  
3 the Whole-Home Repairs Act, which is just  
4 a holistic approach to low-income houses,  
5 not only making them more energy  
6 efficient but also making them safe,  
7 warm, comfortable and, most importantly,  
8 habitable in an effort to preserve  
9 homeownership in the City of  
10 Philadelphia.

11 We're seeing very aggressive  
12 robust gentrification, which from one  
13 side of the fence is a great thing to see  
14 revitalization in the City, but there are  
15 many communities that do not want to  
16 move, and these homes are the ones that  
17 we're most interested in investing in to  
18 make sure that we can make their homes  
19 affordable and livable as well.

20 So I don't have any longwinded  
21 pitch here against taking fossil fuel out  
22 of homes. I would put myself as an  
23 expert when it comes to energy efficiency  
24 in a residential home, and gas is right  
25 now the most economical fossil fuel, and

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2 ECA has aggressively, as we weatherize  
3 and put heating systems in homes, we have  
4 pushed hard to minimize waste. So we put  
5 in the most efficient heating systems.

6 Today, for example, heating  
7 systems that are gas-fired can be as  
8 efficient as 97 percent efficient.  
9 There's still carbon that is being  
10 emitted, but significantly less than the  
11 heaters that most of us grew up with in  
12 our homes.

13 So the technology has increased  
14 dramatically. And we're not right now  
15 jumping on the bandwagon to electrify all  
16 of these homes because of the fact that  
17 the infrastructure really isn't there.  
18 Electrification of a home entails not  
19 only changing out all the fossil fuel  
20 systems in that particular home, but we  
21 also have to increase the electric size  
22 in that house to accommodate now an  
23 electric load that essentially doubles  
24 what just about every home in  
25 Philadelphia has. That's a significant

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2 cost, in addition to the electrification  
3 of the appliances as well.

4 So I would -- as I've been  
5 speaking with many of my colleagues about  
6 the decarbonization/electrification  
7 movement, I try to keep things where we  
8 can keep track of what we're doing and  
9 maintain costs so we're not just simply  
10 flipping the switch and making a house go  
11 all electric. We are doing our best to  
12 lessen energy loads in houses, and that's  
13 really within our grasp. Anything beyond  
14 that is really why we're testifying today  
15 on behalf of the Joint  
16 Finance/Transportation Public Utility  
17 Committees to share our experience with  
18 the thousands of households that ECA does  
19 serve every year and our experience in  
20 what we see as well.

21 With that, I appreciate your  
22 time and consideration. Thank you.

23 COUNCILMAN GREEN: Thank you,  
24 Mr. Luxton.

25 Ms. Scott.

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2 MS. SCOTT: Good morning,  
3 Chairperson Green, members of the Joint  
4 Finance and Transportation and Public  
5 Utilities Committee, fellow community  
6 members, and panelists. My name is  
7 Kinteshia Scott. I'm an attorney in the  
8 Energy Unit at Community Legal Services  
9 and would like to offer some brief  
10 comments.

11 The Energy Unit at Community  
12 Legal Services advocates to ensure that  
13 Philadelphia households have access to  
14 affordable water, heat, and electricity  
15 in their homes.

16 CLS's Energy Unit serves  
17 several important roles regarding PGW.  
18 First, we serve as Public Advocate,  
19 representing the interests of PGW's  
20 residential customers in matters before  
21 the Philadelphia Gas Commission. And we  
22 represent individual low-income utility  
23 customers in affording, restoring, and  
24 maintaining gas service. Finally, we  
25 represent groups of customers seeking

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2 improvements to programs and policies  
3 that benefit low-income PGW customers.

4 My colleague Joline Price  
5 testified more extensively at the  
6 previous hearing, and I won't repeat her  
7 comments, but I will quickly offer some  
8 of the high points.

9 We continue to be concerned  
10 about the unaffordability being faced by  
11 PGW's customers and that PGW continues to  
12 put up barriers that limit customers'  
13 ability to restore or start service,  
14 enroll in bill assistance, and access  
15 programs that are statutorily mandated to  
16 benefit low-income customers. Further,  
17 we urge the City and PGW to utilize all  
18 available resources to provide free home  
19 repair, weatherization, and energy  
20 efficiency to low- and moderate-income  
21 homeowners and tenants.

22 As for PGW's diversification  
23 study itself, we are disappointed that  
24 one of the identified pilot proposals is  
25 a weatherization program with novel

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2 financing opportunities, which suggests  
3 that PGW would provide loans and/or other  
4 ways of financing weatherization  
5 applications for low- and moderate-income  
6 customers. We believe that these  
7 programs should be free.

8 As low-income consumer  
9 advocates, we are not in favor of on-bill  
10 financing, tariffed on-bill financing, or  
11 any novel financing opportunities  
12 associated with any weatherization  
13 programs that PGW might offer low- and  
14 moderate-income PGW customers. We  
15 believe that these mechanisms will not  
16 diversify PGW but aim to further tie  
17 customers financially to the company.  
18 Low- and moderate-income ratepayers  
19 cannot afford additional fixed costs to  
20 be added to their PGW bills.

21 As we think about the future of  
22 PGW and take into consideration the  
23 interests that have been shared by the  
24 various ratepayers, community groups, and  
25 other interested stakeholders who have

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2 been involved throughout this entire  
3 process, we urge PGW to take into  
4 consideration options that not only serve  
5 the company but all of the ratepayers  
6 whom it serves.

7 Thank you for your  
8 consideration of this testimony.

9 COUNCILMAN GREEN: Thank you,  
10 Ms. Scott.

11 I know Councilmember Bass had a  
12 question, and then if there's any other  
13 questions from members of Council for  
14 this panel.

15 COUNCILWOMAN BASS: Thank you,  
16 Mr. Chairman. I just had a quick  
17 question.

18 Number one, I want to thank  
19 everyone for their testimony today, and I  
20 think that we're all recognizing and  
21 understanding that things have to be done  
22 differently, not only for the sake of our  
23 planet but also because what we have is  
24 really -- it's not helpful to  
25 particularly low-income ratepayers who

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2 are struggling every single month to pay  
3 utility bills. And that's not just --  
4 it's not just low-income. It's  
5 middle-income folks as well who have a  
6 very difficult time.

7 If you get a bill in the mail  
8 and it's not unheard of -- I've forgotten  
9 who mentioned -- I think it was Bishop  
10 Royster who mentioned getting a \$750  
11 bill. I see Councilman Green nod his  
12 head. We live in the same neighborhood,  
13 similar housing. So I know that those  
14 bills, they tend to go through the roof.  
15 So we have to do some things differently.

16 But I had just a really quick  
17 question for Bishop Royster. You  
18 mentioned something about -- and forgive  
19 me, because I didn't catch all of it, but  
20 you mentioned something about  
21 weatherization, that we should not -- did  
22 I hear you say we should not do  
23 weatherization or did I hear that wrong?

24 BISHOP ROYSTER: No. No. What  
25 I was saying was that there is a piece in

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2 there -- in the business diversification  
3 report that talks about on-bill financing  
4 for weatherizing low-income residents'  
5 homes, and we're saying that we don't  
6 necessarily support that, one, because  
7 it's also charging the citizens for the  
8 weatherization. We know that many of the  
9 citizens of Philadelphia can't afford the  
10 weatherization, which is why Senator  
11 Saval has his bill out there right now.

12 We said -- weatherization is  
13 extremely important. Let me just be  
14 clear, and I said that in my statement.  
15 Weatherization is completely important,  
16 but we also recognize that it's adding an  
17 additional burden to the citizens of  
18 Philadelphia that many are unable to  
19 afford. And so we're actually going to  
20 be creating a classification between  
21 those that can afford to weatherize and  
22 those that can't. We need a system like  
23 the Built to Last program that  
24 Councilmember Green talked about, like  
25 the weatherization Whole-Home Repair

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2 process that Senator Saval talked about,  
3 and we need not to continue to try to  
4 pass these onto the customers of PGW.

5 COUNCILWOMAN BASS: I  
6 understand. Okay. I'm sorry. I just  
7 wasn't exactly clear as to where you were  
8 going with that, but thank you so much.

9 BISHOP ROYSTER: No. No. We  
10 want weatherization.

11 COUNCILWOMAN BASS: Yeah. We  
12 all want weatherization. I mean, like no  
13 need to basically have your heat on and  
14 essentially have a window open without  
15 having the weatherization in place to  
16 help make homes energy efficient. So  
17 thank you. I just really wanted  
18 clarification on that.

19 Thank you, Mr. Chairman.

20 COUNCILMAN GREEN: Thank you,  
21 Councilmember Bass. And I think the  
22 comments that Bishop Royster made were  
23 echoed by Ms. Scott. It's the concerns  
24 of having the cost of that weatherization  
25 placed on homeowners, many who are

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2 moderate- to low-income who are  
3 struggling with significant gas bills,  
4 even though as Bishop Royster, Ms. Scott  
5 and others have said, weatherization is  
6 incredibly important, especially as we  
7 seek to diversify. We need to weatherize  
8 and make homes more sustainable to --

9 COUNCILWOMAN BASS: Absolutely.

10 COUNCILMAN GREEN: -- produce  
11 less energy. So that's part of the  
12 conversation.

13 So thank you, Councilmember  
14 Bass, for that --

15 COUNCILWOMAN BASS: Thank you,  
16 Mr. Chairman.

17 COUNCILMAN GREEN: -- point to  
18 conditionally clarify that information  
19 for those who are listening and as we  
20 continue the conversation.

21 I want to thank this panel for  
22 being here this morning.

23 Mr. Iannuzzi, if you could give  
24 us the names for the next list of  
25 speakers for this resolution.

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2 THE CLERK: Ashita Gona, Mark  
3 Kleinginna, Nicholas Pevzner, and Edward  
4 Yim.

5 COUNCILMAN GREEN: Thank you  
6 all for being here this morning. We will  
7 start with Ms. Gona and proceed in that  
8 fashion.

9 MS. GONA: Thank you,  
10 Mr. Chairman.

11 Good morning, Chairman Green  
12 and members of the Joint Committee. My  
13 name is Ashita Gona, and I'm an associate  
14 at RMI, an independent, non-partisan,  
15 non-profit organization whose mission it  
16 is to transform the global energy system  
17 to secure a clean, prosperous, and zero  
18 carbon future for all.

19 Electrification was discussed  
20 at length in the diversification study to  
21 decarbonize end uses in Philadelphia and  
22 as a potential but alternative business  
23 model for PGW. And so today we're going  
24 to explore four opportunities toward  
25 electrification Philadelphia could

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2 consider, particularly for low-income  
3 ratepayers.

4 First, Philadelphia can move  
5 every home, and especially low-income  
6 homes, toward decarbonization without  
7 deepening reliance on fossil fuels.  
8 Philadelphia has several programs that  
9 provide housing energy resources to  
10 low-income households every day,  
11 including the Basic Systems Repair  
12 program, Solarize Philly, and the Heater  
13 Hotline. The City can leverage these  
14 existing programs and networks to  
15 implement measures that move homes toward  
16 electrification like pre-electrification  
17 assessments, panel and wiring upgrades,  
18 and rooftop solar.

19 Second of all, there are  
20 emerging pathways to electrifying  
21 low-income households while lowering  
22 their energy bills. RMI's recent  
23 research suggests a starting point. We  
24 conducted energy modeling on a typical  
25 old Philadelphia row home and looked at

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2 the bill impacts of various  
3 electrification interventions. We  
4 developed a row home model based on real  
5 observed conditions from a local  
6 low-income weatherization provider,  
7 actually a couple. Our results indicate  
8 that if gas equipment is nearing end of  
9 life, customers could pay lower energy  
10 bills by pairing weatherization with  
11 air-source heat pumps, which are  
12 electrified appliances that efficiently  
13 provide both heating and cooling. An  
14 upgrade package that includes  
15 weatherization, heat pumps, and also  
16 rooftop solar could reduce operating  
17 costs by 25 percent for consumers.

18 Third, we want to mention that  
19 low-income rates should be enhanced to  
20 support electrification. An option is  
21 percent of income programs for low- and  
22 moderate-income customers in which rates  
23 are capped at an affordable percentage of  
24 income.

25 Fourth, the health benefits of

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2 electrification should be factored into  
3 decision-making. Heat pumps provide both  
4 heating and cooling, protecting against  
5 heat and cold-related illnesses, and can  
6 improve indoor and outdoor air quality.  
7 These are important considerations.

8 This hearing is not only an  
9 opportunity to focus on reducing gas use  
10 and planning PGW's future, but a chance  
11 to strive for a well-rounded solution  
12 that improves the lives of  
13 Philadelphians. It is imperative that  
14 Philadelphia and PGW find pathways toward  
15 electrification and create an environment  
16 in which electrification is accessible to  
17 all.

18 Thank you for your time today.

19 COUNCILMAN GREEN: Thank you  
20 for your testimony.

21 Our next witness, which is  
22 Professor Kleinginna, and then Professor  
23 Pevzner and Mr. Yim.

24 I believe you are muted. If  
25 you can take yourself off mute.

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2 MR. KLEINGINNA: How is that?

3 COUNCILMAN GREEN: We can hear  
4 you now. Thank you.

5 MR. KLEINGINNA: Excellent.

6 Good morning, and thank you  
7 very much for your time to discuss the  
8 necessary thermal energy transition. My  
9 background in the energy industry dates  
10 back to 1988 when I was exposed to  
11 natural gas take-or-pay contracts during  
12 my graduate studies. I have 34 years of  
13 continuous and progressive experience in  
14 the energy industry ever since. I've  
15 worked for consultants, gas utilities,  
16 end users, and brokers over that period.  
17 My work as a natural gas supply manager  
18 during the coldest winter day on record  
19 as well as a natural gas industry  
20 executive significantly informs my  
21 testimony today.

22 I'm currently a Professor at  
23 Penn State in the Renewable Energy and  
24 Sustainability program there, as well as  
25 a full-time energy consultant. The focus

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2 of my testimony today will be on the  
3 benefits to investing in thermal networks  
4 as a business diversification opportunity  
5 can provide for PGW and the City.

6 The global events of the past  
7 ten weeks point to the very critical  
8 importance of energy network reliability  
9 and resilience. Philadelphia is in a  
10 very precarious position from a natural  
11 gas heating perspective. It relies on a  
12 delivery system which is near the end of  
13 the national natural gas transmission  
14 system.

15 Philadelphia does not have  
16 access to significant underground natural  
17 gas storage on its system and also relies  
18 on liquefied natural gas for reliability  
19 in the winter months.

20 Philadelphia Citygate prices  
21 are among the most volatile in the North  
22 American market. What is happening in  
23 Europe is not just illustrative of the  
24 value of resilience and reliability of  
25 energy supplies. It will also

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2 significantly affect the cost for natural  
3 gas for delivery to Philadelphia as North  
4 America natural gas returns to being a  
5 global commodity as opposed to the local  
6 one it has been for the last decade or  
7 so.

8 Decarbonization pathways that  
9 do not model this existential commodity  
10 risk could severely burden those  
11 customers least able to pay over the long  
12 run.

13 As an anecdotal illustration,  
14 I'll point to three facts. First,  
15 long-term natural gas pricing, five to  
16 ten years in the future, is at least \$1  
17 per MMBTU higher than what was used in  
18 the diversification study.

19 Second, Philadelphia Citygate  
20 for winter 2022-2023 is now trading at  
21 close to \$12 per MMBTU. This is double  
22 the historical price for Philadelphia  
23 futures. This morning the prompt-month  
24 natural gas contract is trading at  
25 350 percent of the level it was trading

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2 two years ago. To continue to rely on  
3 this commodity, heat homes in the winter,  
4 exposes those least able to react to  
5 these changes in the market to  
6 ever-greater costs. Low-income customers  
7 will be the most exposed to this  
8 volatility and increased cost. This is a  
9 significant economic justice issue.

10 To the extent possible, it  
11 becomes ever more incumbent on the City's  
12 leadership to empower this transition  
13 away from the global natural gas  
14 commodity with all the associated risk to  
15 a more easily locally controlled and  
16 optimized asset like a thermal network.

17 Fossil fuel combustion at the  
18 point of demand has been the preferred  
19 solution for three reasons. First,  
20 economics. Unburdened costs for fossil  
21 fuel consumption has been lower than  
22 alternatives.

23 Second, fossil fuel is easy to  
24 store to meet the volatility of the  
25 weather.

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2 Third, momentum. Switching to  
3 other alternatives is scary, because lack  
4 of heat is a significant safety issue in  
5 the wintertime.

6 Thermal networks work to  
7 address each of these reasons for the  
8 preference of fossil fuels. First, as we  
9 burden the cost for fossil fuels with  
10 carbon costs as well as realize that the  
11 cost for natural gas in Philadelphia has  
12 risen significantly as the consequences  
13 of the European situation, the economics  
14 of thermal networks incorporating  
15 renewable electricity in ground-source  
16 heat pumps become compelling.

17 Second, thermal networks are a  
18 local and viable form of thermal storage  
19 because they allow an almost constant  
20 coefficient of performance for heat pumps  
21 regardless of the weather.

22 As we build out the -- third,  
23 as we build out the technology of thermal  
24 networks and do more pilot programs, we  
25 become much more confident that they can

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2 perform during times of high demand.

3 Finland and Denmark rely on district  
4 energy for more than 50 percent of heat  
5 during the winter.

6           Moreover, thermal networks  
7 offer three important characteristics to  
8 Philadelphia that the current thermal  
9 combustion system does not. First,  
10 localized resiliency, reliability, and  
11 affordability which is not dependent on a  
12 global commodity or a North American  
13 distribution system.

14           Second, the removal of  
15 combustion within buildings, which  
16 mitigates or eliminates safety issues and  
17 the need to replace leak-prone pipes.

18           Third, a business model which  
19 offers benefits all year round, providing  
20 more even cash flows to the utility,  
21 better access to cooling, and energy peak  
22 load reduction not just in the winter but  
23 also during the summer, and they also  
24 enable the current workforce the ability  
25 to transition their current training to

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2 the labor required to develop and  
3 maintain the thermal assets.

4 Thermal networks are also  
5 important in the process of  
6 decarbonization, because if a thermal  
7 network were installed in a neighborhood  
8 that were decarbonized through the  
9 installation of heat pumps, a thermal  
10 network would use the latent heat in the  
11 heat transfer fluid to serve a  
12 ground-source heat pump, thereby making  
13 the heat pump much more efficient at cold  
14 temperatures. This would allow for the  
15 complete decarbonization of heating by  
16 elimination of combustion in buildings.  
17 This option for electrification would  
18 significantly reduce the strain on the  
19 electric grid during periods of peak  
20 usage versus a complete switchover to  
21 air-source heat pumps.

22 Clearly, the impact on  
23 emissions of thermal networks is  
24 positive. We know that heat pumps  
25 already provide a reduction in emissions

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2 of 50 percent versus natural gas  
3 combustion for heating.

4 As a thermal network captures  
5 more heat and leads to less waste as well  
6 as lower electric peaks, the impact on  
7 emissions will be even greater.

8 As the grid becomes ever more  
9 reliant on zero carbon generation, the  
10 emissions impact is driven ever closer to  
11 zero, because thermal networks provide  
12 carbon-free thermal storage, which is the  
13 most difficult part of the fossil fuel  
14 transition to solve.

15 Thermal networks do not require  
16 deep drilling or hot springs. Some  
17 geothermal energy systems do make use of  
18 naturally occurring high levels of heat  
19 deep below the earth's surface. You'll  
20 hear about that later today from the  
21 gentleman from Boise. However, thermal  
22 networks can make use of geothermal  
23 energy in another way; namely, by taking  
24 advantage of the fact at much shallower  
25 depths, the temperature is a relatively

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2 consistent temperature year round  
3 regardless of the air temperature above  
4 the surface, which provides the  
5 opportunity for efficient heat exchange I  
6 ascribe above.

7 A ground-source heat pump is  
8 more efficient than an air-source heat  
9 pump because it uses water that is kept  
10 at a constant temperature of around  
11 55 degrees Fahrenheit to transfer heat,  
12 as opposed to the air, which in the  
13 winter can get much colder than 55  
14 degrees. In fact, as temperatures go to  
15 levels below 32 degrees, thermal  
16 efficiency of air-source heat pumps  
17 becomes very low. In contrast to thermal  
18 network, it allows the thermal efficiency  
19 of the ground-source heat pump to remain  
20 in the range of 500 percent even at the  
21 lowest temperatures. This obviously  
22 lowers the carbon footprint of the  
23 space-heating function for the built  
24 environment and has the added benefits of  
25 lower electricity costs for the consumer

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2 and the lower strain on the electricity  
3 grid both in the winter and summer  
4 seasons.

5 Moreover, thermal networks  
6 provide the significant resiliency to the  
7 grid required to meet the cold  
8 temperatures experienced in the  
9 Northeast. These networks act as a form  
10 of thermal storage during these very cold  
11 days. Simple air-source electrification  
12 pathways will not address the significant  
13 electric reliability issue. If we are to  
14 move to significant electrification of  
15 heating, we must ensure deliverability on  
16 the coldest days.

17 Studies have been conducted  
18 that show potential winter peak, which is  
19 triple that of the current summer peak,  
20 in full heating electrification  
21 scenarios. The recent crisis in Texas  
22 was not just a failure of supply but a  
23 complete misunderstanding of the load.  
24 Sixty-one percent of all heating in Texas  
25 is electric. As temperatures plummeted,

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2 air-source heat pumps lost their  
3 coefficient's performance and helped to  
4 collapse the grid. We experience these  
5 temperatures every year in the Northeast,  
6 not just the one as played out in Texas.

7 Thermal networks would thrive  
8 in Philadelphia because Philadelphia has  
9 the three following conditions: a  
10 geographically dense load, a locale with  
11 significant heating load, a locale with a  
12 variety of heat sources and sinks,  
13 including diverse heat sources and sinks  
14 in buildings, permissive geological  
15 conditions, a nearby body of water and  
16 access to other potential thermal sources  
17 like wastewater mains. Philadelphia  
18 meets all of these criteria.

19 Philadelphia is uniquely  
20 positioned in the Northeast as the only  
21 large metropolitan area where the City  
22 government controls the water,  
23 wastewater, and gas utility. In every  
24 other metropolitan area in the Northeast,  
25 the use -- of the size of Philadelphia,

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2 gas is provided by an investor-owned  
3 utility. As PGW is owned by the City,  
4 coordination, alignment, and the planning  
5 for a thermal network, including  
6 alignment on decarbonization goals and  
7 the use of union labor, is simpler than  
8 it would be with an investor-owned gas  
9 utility.

10 Moreover, the City has access  
11 to the rivers for water as well as access  
12 to the ability to return water to the  
13 rivers. These advantages position  
14 Philadelphia well to take a leadership  
15 role on thermal networks.

16 Recommendations: The  
17 diversification study finds that thermal  
18 networks may provide a viable option for  
19 PGW as a new business since the workforce  
20 could transition and the business model  
21 could be developed in a similar manner.  
22 The study finds that an appropriately  
23 designed thermal networked pilot meets  
24 all the positive criteria which were used  
25 to compare diversification pilot

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2 opportunities, specifically carbon  
3 reduction, growing revenue, and retaining  
4 workforce, could be launched within six  
5 months, testing a new energy application  
6 or model, and benefiting low-income  
7 customers.

8 I recommend that as a condition  
9 of approval of PGW's Fiscal Year '23  
10 capital budget, which is before you, City  
11 Council should instruct PGW to invest in  
12 an amount not to exceed \$500,000 in  
13 undertaking a thermal network advanced  
14 engineering work, which is described in  
15 my testimony, which is filed in the  
16 capital budget proceeding and will be  
17 part of my exhibit.

18 City Council should require  
19 that PGW meet the standards for  
20 transparency, stakeholder participation,  
21 and public reporting that I described in  
22 my testimony, including a competitive  
23 procurement of a consultant to perform  
24 the network -- thermal network advanced  
25 engineering work, performance of the

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2 thermal network advanced engineering work  
3 in collaboration with a working group,  
4 which includes the parties who  
5 participated in the working group for the  
6 diversification study, as well as Public  
7 Advocate, the Environmental Justice  
8 Commission, and any interested community  
9 organization, holding public hearings to  
10 collect input on the advanced engineering  
11 study, and finally producing a public  
12 report every three months that includes  
13 updates on the work performed.

14 To conclude, I strongly  
15 recommend that City Council continue  
16 investing -- consider investing in  
17 localized energy resilience, which can  
18 only be offered by thermal networks. It  
19 will allow the City to declare energy  
20 independence from the volatility of  
21 global energy markets as well as the  
22 vicissitudes of natural gas, cost  
23 pipeline, cost recovery.

24 Thank you for your time and  
25 attention.

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2 COUNCILMAN GREEN: Thank you.

3 We'll now proceed with the next  
4 witness.

5 MR. PEVZNER: Hello. Can we  
6 see the screen?

7 COUNCILMAN GREEN: Yes, we can  
8 see the screen.

9 MR. PEVZNER: Okay. Wonderful.  
10 Hello, everyone. My name is  
11 Nicholas Pevzner. I'm an Assistant  
12 Professor in the Department of Landscape  
13 Architecture at UPenn in the School of  
14 Design. So thank you, Chairman Green,  
15 Councilmembers.

16 I'm not an engineer. I'm a  
17 design professor who happens to study  
18 infrastructure, but five years ago, I had  
19 the privilege of spending time in Boston  
20 as an artist-in-residence at the Isabella  
21 Stewart Gardner Museum on a Maider (ph)  
22 York Fellowship studying gas  
23 infrastructure.

24 I drove around in the city with  
25 scientists who are able to measure

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2 methane in parts per billion with a  
3 hyper-sensitive piece of equipment and to  
4 make drawings of these situations in the  
5 city, including the physical components  
6 and the invisible climate impacts of this  
7 infrastructure.

8 This was the project, and these  
9 are the scientists. I was working  
10 directly with the scientists who had done  
11 the first ground-level inventory of gas  
12 leaks in Boston back in 2013. Now, I was  
13 not involved with this, but was able to  
14 learn a lot from them.

15 This 2013 study was a  
16 first-of-its-kind investigation that  
17 mapped leaks across the city and found  
18 over 3,000 leaks, 3,356 to be precise.

19 So in my work, I was interested  
20 to see how gas use in the city is  
21 connected to the much larger system of  
22 gas infrastructure, from energy  
23 generation inside the city to gas  
24 processing plants that can flare gas or,  
25 worse for the climate future,

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2 quote/unquote, anomalous venting, and  
3 then if we go out along the pipeline  
4 network to the gathering pipelines and  
5 fracking sites of Western Pennsylvania  
6 and Ohio where compressors routinely vent  
7 methane through both planned and  
8 unplanned, quote/unquote, blow-downs.

9 So in this illustration, it's  
10 documenting a state Supreme Court case  
11 that uncovered extreme localized  
12 pollution from some of these processes as  
13 well as climate atmospheric impacts.

14 And, finally, the gas system  
15 also includes underground gas storage  
16 wells. And my colleagues at the Harvard  
17 School of Public Health found that in the  
18 Northeast, there are over 2,700  
19 underground gas storage wells that  
20 feature single point-of-failure design,  
21 which is vulnerable to a blow-out just  
22 like Los Angeles had in the Aliso Canyon  
23 blow-out, for those of you who remember  
24 that. Drastically increased the methane  
25 emissions of the State of California.

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2 So this is a story that lines  
3 up with what we know about the larger gas  
4 infrastructure system, that leaks happen  
5 at every step of the natural gas supply  
6 chain, including over 40 percent of the  
7 emissions well upstream of the city.

8 And we probably don't need to  
9 be reminded of how harmful methane is in  
10 driving climate change. It's in the area  
11 of 84 to 86 times or so worse than CO2 if  
12 you average it over 20 years.

13 And now it's true that the PGW  
14 diversification study assumes that leaky  
15 cast iron pipes will be replaced by 2057,  
16 not 2050, but that's fine. It also  
17 assumes that natural gas could be  
18 replaced by deep carbonized gas, with the  
19 assumption that, and I quote, "all  
20 decarbonized gases are generally assumed  
21 to have a net neutral impact on the  
22 climate if gas leakage is prevented," end  
23 quote.

24 If gas leakage is prevented.  
25 So if renewable natural gas leaks

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2 unburned, it's still acting as a  
3 hyper-potent greenhouse gas. It's not  
4 carbon neutral. It's not climate  
5 neutral.

6 As we'll see, eliminating gas  
7 leaks will be harder than previously  
8 assumed. Now, we don't know precisely  
9 how much gas is leaking out of the  
10 present Philadelphia system today, but we  
11 can be quite confident that it's  
12 significantly more than official  
13 bottom-up inventory estimates.

14 Last year if we look at Boston,  
15 for example, a study there found that  
16 natural gas emissions were approximately  
17 six times higher than inventory  
18 estimates. If we just drill down where  
19 were they coming from, pipeline emissions  
20 should account for about 42 percent of  
21 total gas -- total methane emissions in  
22 the bottom-up inventory, but repairs on  
23 the system each year since 2014 were  
24 supposed to have shown a 50 percent  
25 decrease in emissions, but the team did

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2 not observe any significant change in the  
3 number of Grade 1 or 2 leaks and only a  
4 very slight reduction in Grade 3 leaks.

5 So through a bottom-up leak  
6 count as well as their top-down analysis,  
7 they concluded that new leaks are  
8 appearing in the aging Boston pipeline  
9 system as fast as old ones are being  
10 repaired.

11 They also note that this is not  
12 atypical. This is exactly how many other  
13 cities with old natural gas  
14 infrastructure also fare. So the  
15 research team investigated natural gas  
16 emissions in other U.S. cities, including  
17 Philadelphia, which you see here, which  
18 similarly has roughly six times worse  
19 inventory as measured directly as opposed  
20 to what is accounted for in bottom-up  
21 inventory estimates. They found the same  
22 gap between bottom-up EPA emissions  
23 estimates and top-down atmospheric  
24 measurement prevalent in a number of U.S.  
25 cities.

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2 And then other studies in  
3 Boston have looked at the cost of the  
4 repairs of the leaky gas infrastructure.  
5 So in Massachusetts, the total cost of  
6 gas replacement have been estimated at  
7 between 13.4 to about \$16.6 billion for  
8 the State of Massachusetts.

9 In Philly, I'm not sure of the  
10 exact estimate, but if we take the  
11 roughly 2,000 miles of gas mains that are  
12 considered at risk, times about a million  
13 dollars per mile for gas main  
14 replacement, which PGW has suggested,  
15 which just to note is about half the cost  
16 per mile of some of the actual costs in  
17 Boston which were discovered through  
18 information requests from Massachusetts  
19 Attorney General two years ago, that  
20 comes out to about \$2 billion for  
21 Philadelphia.

22 So if the pipeline replacement  
23 might actually not eliminate more than  
24 50 percent of leaks, which are probably  
25 behind the meter, so those 50 percent of

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2 leaks in the Boston study were found to  
3 be coming most likely from boilers,  
4 furnaces, other appliances, and likely  
5 from compression stations and meters  
6 rather than from the pipelines. So if we  
7 actually invest this money and 50 percent  
8 of leaks remain unmitigated because  
9 they're happening behind the meter or at  
10 the compressor station in a system that  
11 actually won't be carbon neutral by 2050,  
12 then what are we doing?

13 You've heard much about the  
14 concept of networked geothermal or  
15 ground-source systems, which are  
16 currently being piloted both in  
17 Massachusetts and New York. This comes  
18 from Massachusetts non-profits' concerns  
19 about diverting the billions of dollars  
20 that would be invested in a stranded  
21 asset and instead trying to use that as a  
22 down payment in a truly carbon-neutral  
23 system.

24 Another study from  
25 Massachusetts last year looked at the

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2 cost of non-gas heating alternatives. So  
3 if we take the rate increase that  
4 utilities have rate-based to pay for the  
5 pipeline replacements, this comes out in  
6 Massachusetts to be -- that by about  
7 2030, by about 2030, air-source heat  
8 pumps, the green line here, roughly comes  
9 out as cheaper than the current gas  
10 system. If we actually take the payback  
11 period to be 2050 instead of 2110, then  
12 air-source heat pumps become economically  
13 competitive with gas at around 2026.

14 Ground-source heat pumps, the  
15 orange line here, are already cheaper,  
16 because ground-source heat pumps achieve  
17 higher efficiencies than air-source heat  
18 pumps, as Professor Mark just told us  
19 about, because unlike air, the ground  
20 stays at around 50 degrees, an optimum  
21 temperature for heat pump efficiency.  
22 And then that efficiency can be further  
23 improved and the costs reduced by  
24 interconnecting ground-source heat pumps  
25 in multiple buildings through a

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2 neighborhood underground shared leak --  
3 network ground-source heat pump system,  
4 a/k/a a geogrid.

5 Now, there are a number of  
6 interesting technologies that could be  
7 intriguing from the point of view of  
8 networked thermal heating and cooling  
9 systems. There's potential to store  
10 thermal energy in subway tunnels, as  
11 London is doing. There is potential to  
12 store thermal energy in sewage, as the  
13 Philadelphia Water Department has been  
14 doing for the last ten years in its  
15 Southeast Water Pollution Control Plant.  
16 Aquifer thermal energy storage, or ATES,  
17 is widely used in the Netherlands, and of  
18 course networked ground-source heat pump  
19 systems which align well with the pattern  
20 of gas pipe utility rights-of-way and  
21 worker skill sets that gas utilities  
22 currently have.

23 So what might a partnership  
24 with the Water Department look like in  
25 terms of thermal storage in sewage or

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2 partnerships with mass transit agencies  
3 in terms of thermal storage in subway  
4 tunnels? PGW could play a role in  
5 mapping out heat sources and heat sinks  
6 that can make for efficient heating and  
7 cooling, but whatever the technology,  
8 it's vital to transition off of methane  
9 and its climate impacts, because we now  
10 understand the incredible difficulty of  
11 actually plugging the leaks even if  
12 pipelines are replaced.

13 I'd just like to close with a  
14 short historical anecdote. Apologies in  
15 advance. It's hard to get the professor  
16 out of me. But a short historical  
17 anecdote that reminds us that upcoming  
18 decades will not be the first time that  
19 gas systems will have had to transform  
20 dramatically, as Chairman Green said in  
21 the introduction, and that when motivated  
22 to move quickly, utilities can actually  
23 do so at lightning speed.

24 Now, I have only studied this  
25 in the context of New York City, but I

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2 would bet that Philadelphia faced a very  
3 similar situation, because in the 19th  
4 century, most cities that used natural  
5 gas for lighting and heating did so with  
6 gas produced right in the city in what  
7 were called manufactured gas plants from  
8 coal via coal gasification processes.

9 Then in 1949, a brand new  
10 pipeline was approved to run 1,000 miles  
11 from Texas to New York City, and so the  
12 two big gas utilities in New York started  
13 thinking about how to switch to natural  
14 gas arriving via pipeline, which meant  
15 they would no longer have any need for  
16 the manufactured gas plants or the  
17 massive gas holders that occupied prime  
18 real estate in the city.

19 But on top of that, at a  
20 chemical level, natural gas was different  
21 from manufactured gas. Not to get into  
22 the details, but manufactured gas is a  
23 mixture of carbon monoxide and hydrogen.  
24 Natural gas is almost pure methane, as we  
25 know. So the difference between the two

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2 is significant enough that appliances  
3 built for the one could not work with the  
4 other.

5 What did they do? It led to  
6 what was known as the Great Changeover in  
7 which the gas companies went door to door  
8 to convert all of the appliances in the  
9 city. The two utilities undertook a  
10 massive operation to convert every  
11 gas-burning appliance in their service  
12 territories with technicians visiting  
13 every customer over the course of two  
14 years to retrofit their devices. Con Ed  
15 did so in 1951, Brooklyn Union in 1952.

16 Con Edison had 1.4 million  
17 customers, with an average of two  
18 appliances each. Brooklyn Union had  
19 350,000 customers, with a total of two  
20 million appliances total. And  
21 interestingly, Con Edison was able to  
22 employ many of the workers at the  
23 manufactured gas plants that they were  
24 closing, and that conversion team grew to  
25 over 1,000 employees during the final

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2 stage of the work, which was the  
3 conversion of Manhattan Island.

4 So two to three million  
5 appliances, new infrastructure, all in  
6 two years, while taking care of their  
7 workers. PGW is well-positioned to  
8 transform once again and to put its  
9 workers to work in buildings switching  
10 over and helping maintain a truly  
11 carbon-free heating and cooling system,  
12 and I think they can do so.

13 Thank you very much. I'm happy  
14 to answer questions, and this is my  
15 e-mail for anyone who would like to  
16 follow up further.

17 COUNCILMAN GREEN: Thank you,  
18 Professor Pevzner. I appreciate that  
19 history and information.

20 Mr. Yim, you're next to  
21 testify.

22 MR. YIM: Good morning. My  
23 name is Edward Yim and I lead ACEEE's  
24 utility and state policy team. ACEEE  
25 stands for the American Council for an

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2 Energy Efficient Economy, which is a  
3 non-profit founded in 1980, and we  
4 provide research, education, and advocacy  
5 on energy efficiency matters to local,  
6 state, and federal governments as well as  
7 to utilities and utility regulators.

8 As a former Philly resident and  
9 a former staff of the Pennsylvania  
10 Legislature, I thank Chair Green and the  
11 Joint Committees for making the space to  
12 weigh in on these important issues  
13 regarding Philadelphia's energy future.

14 At ACEEE, we support beneficial  
15 electrification, which means electrifying  
16 energy uses that result in lower energy  
17 use, lower consumer costs, and lower  
18 greenhouse gas emissions. Heating  
19 electrification is often a good example  
20 of beneficial electrification. Heating  
21 space and water, as you all know,  
22 represents a significant component of  
23 greenhouse gas emissions for  
24 Philadelphia, and the City will not be  
25 able to meet its climate goal without

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2 decarbonizing heat.

3 So as the PGW study shows,  
4 there are two options for decarbonizing  
5 heat. One is to use decarbonized fuels,  
6 and the other is to electrify heating  
7 using heat pump technologies such as  
8 ground-source or air-source heat pumps  
9 that others have already mentioned. For  
10 Philadelphia, we think the better option  
11 is electrifying heating.

12 The advantages of heating  
13 electrification are clear. You use less  
14 energy, you use less money on energy,  
15 your greenhouse gas footprint goes down,  
16 and is good for your health.

17 Some worry that heating  
18 electrification will increase the stress  
19 on the grid, especially during cold hours  
20 in the winter, but the electrical grid is  
21 designed and can be designed to leave  
22 enough room to accommodate new demand,  
23 and brief periods of intense energy use  
24 during those cold hours can be addressed  
25 through demand management strategies,

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2 including the use of energy storage. And  
3 it should be emphasized that heat pumps  
4 can work and do work well in cold  
5 weather, even for air-source heat pumps.  
6 Currently cold climate air-source heat  
7 pumps perform well in cold weather down  
8 to about 5 degrees Fahrenheit. But a  
9 20-year weather dataset for Philadelphia  
10 shows that the City experienced  
11 temperatures below 5 degrees Fahrenheit  
12 for an average of six hours per year.  
13 For those minimal six hours when the  
14 temperature may dip below 5 degrees, the  
15 heat pumps will use their back-up  
16 resistance heating coils, which is a less  
17 efficient way of heating that some  
18 households still use in Philadelphia.  
19 Because the temperature rarely dips below  
20 5 degrees in Philadelphia, as I just  
21 mentioned, the resulting impact on the  
22 grid from the inefficient heating can be  
23 minimal and manageable.

24 Others worry that if the grid  
25 suffers an outage, Philadelphians will be

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2 left without heating, but in the event of  
3 an outage, the same problem will exist  
4 for natural gas furnaces, which has  
5 essential components like the blower  
6 motor that require electricity. The  
7 solution to that concern is a resilient  
8 grid.

9 And when you compare the cost  
10 of heating electrification with the other  
11 option of using decarbonized fuels, the  
12 difference becomes also clear. Compared  
13 to today's natural gas price of roughly  
14 \$7 per MMBTU at the Henry Hub, the PGW  
15 study projects these fuels could cost as  
16 much as \$60 to \$80 per MMBTU, assuming  
17 the study's costs are for wholesale, a  
18 price that's roughly ten times higher.

19 And as the study points out,  
20 the carbon-neutral biogas is limited in  
21 quantity. The amount of hydrogen that  
22 can be blended with methane is also  
23 limited, and it will take some time for  
24 synthetic methane to reach  
25 commercialization. And there remains a

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2 view that these decarbonized fuels may  
3 not be truly carbon-neutral from a  
4 lifecycle accounting of greenhouse gas  
5 perspective, and that may create some  
6 uncertainty whether this option can  
7 deliver on the goal of carbon neutrality  
8 for Philadelphia.

9 And, lastly, decarbonized  
10 fuels, either when they leak or when they  
11 combust, will continue to produce harmful  
12 emissions that could cause health  
13 problems.

14 So heating electrification is  
15 already taking place, and market trends  
16 already favor electric heat for new small  
17 residential and commercial buildings due  
18 to lower costs to builders. So heating  
19 electrification is a new reality, and PGW  
20 should face that reality and proactively  
21 manage the associated risks in advance.  
22 One way to do that is to get back to the  
23 essence of its business, which is  
24 providing heat, not selling commodity.

25 In that regard, we think that a

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2 pilot for the option identified as  
3 networked geothermal systems is  
4 compelling. Unlike air-source heat pumps  
5 in a ground-source heat pump-based  
6 network system, there is a pipe  
7 infrastructure that can be owned by PGW,  
8 representing a less disruptive transition  
9 from the current business model,  
10 including PGW keeping their customer  
11 base. The skill sets of PGW workers, as  
12 others have mentioned, should be  
13 transferable, thereby minimizing the  
14 workforce transition issues. And  
15 providing heat through pipes may also be  
16 particularly advantageous for many older  
17 buildings that use radiators, thereby  
18 lowering retrofit costs.

19 We recommend that the pilot  
20 focus on neighborhoods with buildings  
21 that use hot water heat distribution  
22 systems in particular.

23 This pilot may not be expensive  
24 when viewed as a stand-alone project, but  
25 when compared to the business-as-usual

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2 investment, including the cost of gas  
3 pipe replacement, the business case for  
4 the pilot should be much improved.

5 The Council could ensure that  
6 PGW consider a full and balanced list of  
7 costs and benefits when evaluating the  
8 pilot, including the avoided cost of gas  
9 pipe replacement as well as the avoided  
10 costs associated with pollution.

11 To sum up, heating  
12 electrification is the better option for  
13 Philadelphia, and the networked  
14 geothermal system pilot could point to a  
15 transition pathway that is less  
16 disruptive.

17 Thank you.

18 COUNCILMAN GREEN: Thank you,  
19 Mr. Yim.

20 Are there any questions from  
21 members of Council for this panel?

22 (No response.)

23 COUNCILMAN GREEN: Thank you  
24 all for your testimony and information.  
25 It was quite informative and provides

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2 quite a bit of context to this  
3 conversation that we're having regarding  
4 PGW diversification, both ideas for the  
5 future and also a historical perspective.  
6 So definitely appreciate your input this  
7 morning.

8 At this point, I'd like to call  
9 our next witness, Mr. Burgos.

10 MR. BURGOS: Chairman Green,  
11 can you hear me?

12 COUNCILMAN GREEN: I can hear  
13 you. Thank you so much.

14 MR. BURGOS: Great.

15 COUNCILMAN GREEN: And before  
16 you state your name for the record, I  
17 just want to say I appreciate you being  
18 on this morning. I know you are here  
19 from Boise, Idaho and you had a chance to  
20 talk with my staff. Your Mayor, Lauren  
21 McLean, and I are part of a group called  
22 The New Deal, which we will have here in  
23 Philadelphia May 23rd and 24th, and it  
24 was during our conversation during the  
25 National League of Cities' conference I

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2 learned about the work that you're doing,  
3 and I thought it was very interesting and  
4 informative, especially considering PGW  
5 is going through a diversification study.  
6 So thank you for being here this morning.

7 MR. BURGOS: Chairman Green, my  
8 pleasure. Thank you to you and the  
9 members of the Joint Committee.

10 My name is Steve Burgos. I'm  
11 the Public Works Director with the City  
12 of Boise and I oversee the operation of  
13 four utilities in Boise, including the  
14 geothermal heating utility.

15 Boise owns and operates the  
16 largest geothermal heating district in  
17 the country. We heat public and private  
18 building space in the downtown core of  
19 Boise and on the Boise State University  
20 campus.

21 In addition to space heating,  
22 the geothermal system provides heating to  
23 downtown pools, provides hot water to  
24 laundry services in several large hotels,  
25 and was even used for sidewalk snow melt

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2 in some instances.

3 As Chairman Green mentioned,  
4 Mayor McLean has been committed to  
5 climate action. She recently committed  
6 the City of Boise to be carbon neutral by  
7 2050, and our geothermal system is going  
8 to play an innovative part in reaching  
9 that goal.

10 As the largest system in the  
11 country, we believe Boise is ground zero  
12 for geothermal use as a renewable  
13 alternative to thermal energy for  
14 carbon-based fuels. This energy source  
15 is local, so it's not subject to the  
16 impact of price fluctuations resulting  
17 from national or international crises as  
18 we've seen over the last several months.  
19 It's also sustainable, both as a near  
20 term -- or a near carbon-free heating  
21 source as well as one that returns the  
22 water back to the very aquifer from which  
23 it was withdrawn.

24 On an annual basis, the city's  
25 geothermal system pumps about 300 million

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2 gallons of 177-degree water from three  
3 production wells located along the Boise  
4 front. That water is then collected,  
5 piped, and injected 3,700 feet back down  
6 into the aquifer after use. The water is  
7 used in our downtown core, as I  
8 mentioned, to heat 90-plus buildings,  
9 equating to over six million square feet  
10 of downtown building space.

11 The city's system was first  
12 installed in the '80s as a demonstration  
13 project funded in part by a grant from  
14 the U.S. Department of Energy. The  
15 initial funding source was about  
16 \$7 million, of which DOE covered  
17 70 percent. The system has been  
18 successfully in operation for 40 years  
19 now, and though it started as a  
20 demonstration and research and  
21 development project, it has definitely  
22 moved well past that and it has  
23 established itself as a viable heating  
24 energy source for downtown Boise. It is  
25 now run as a formal utility within the

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2 City of Boise and has an approximately  
3 99.5 percent up time.

4 Specific to geothermal and the  
5 benefits it provides to the community, on  
6 an annual basis carbon offsets associated  
7 with the operation of the system equal  
8 approximately 6,600 metric tons of CO2  
9 equivalent reduction, which equates to  
10 the planting of approximately 304,000  
11 trees or removing 19.5 million vehicle  
12 miles from the road on an annual basis.

13 In addition, the system is  
14 relatively straightforward to operate.  
15 It's got a few moving parts and basic  
16 building HVAC equipment to extract heat  
17 from the water. As a result, the system  
18 is a great source of community pride and  
19 has strong support for continued system  
20 expansion and innovation.

21 The system doesn't come without  
22 challenges. During the 40 years of  
23 service, we've had specific challenges.  
24 For example, the geothermal system that's  
25 been discussed in previous testimony

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2 competes with natural gas pricing.

3 Initially the utility price point was  
4 closely indexed to natural gas on a  
5 per-BTU basis. This worked relatively  
6 well financially for the better part of  
7 three decades until natural gas prices  
8 dipped significantly in the late 2000s.

9 At this time, we made a decision to  
10 de-couple our geothermal rates from  
11 natural gas pricing and charge based on,  
12 more accurately, the cost of providing  
13 the service.

14 It should be noted that even  
15 with historically low natural gas prices,  
16 buildings on the geothermal system can  
17 compete with and at times be lower than  
18 natural gas based on the efficiency of  
19 the heat exchangers within the building.

20 So I mentioned the water coming  
21 out of the aquifer is at about  
22 177 degrees. The breakpoint for being as  
23 efficient to beat natural gas prices is  
24 about 73 degrees of heat taken off the  
25 water. If you can be above 73 degrees of

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2 heat, if your system is that efficient,  
3 you can actually be lower than natural  
4 gas prices.

5 So in addition to the  
6 competition with the natural gas prices,  
7 Boise's system is also challenged by the  
8 difficult operational conditions inherent  
9 to a system moving hot water underground.  
10 While pipe material technologies have  
11 advanced, and they certainly have over  
12 the last several decades, the original  
13 system was comprised of pipe that did not  
14 respond well to expansion and contraction  
15 and corrosive soils that over time  
16 resulted in the need for an active asset  
17 management program to maintain consistent  
18 replacement of aging pipe.

19 Moving forward, the city is  
20 excited about the potential opportunities  
21 to leverage and expand the existing  
22 system. We certainly are seeing demand  
23 from customers in the downtown core  
24 increase. That is certainly growing,  
25 certainly as customers start to look out

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2 into the potential for carbon price and  
3 be included in carbon-based fuels.

4 There's also expanding research  
5 and development into emerging  
6 technologies like thermoelectric  
7 materials that can be used to turn the  
8 heat directly into electricity. And I'll  
9 share the city's staff recently completed  
10 a design sprint process that focused on  
11 how to leverage innovation to expand the  
12 amount and types of system uses, with the  
13 final report expected in the coming  
14 months. We're excited to see what comes  
15 out of that.

16 And with that, I will stand for  
17 any questions from the Committee.

18 COUNCILMAN GREEN: Thank you,  
19 Mr. Burgos. I just have a question.  
20 What opportunities do you see through the  
21 Investment Infrastructure and Jobs Act as  
22 a way to upgrade your system considering  
23 that you've had the system since the  
24 '80s? And that's also an area that I'm  
25 looking at as an opportunity as we're

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2 looking at networked geothermal and other  
3 opportunities for PGW to diversify.

4 MR. BURGOS: Chairman Green,  
5 thank you for the question. We think  
6 there are several opportunities that are  
7 developing within DOE specific to  
8 geothermal. We're fortunate that the  
9 Idaho National Lab that's located in the  
10 eastern part of the state is one of the  
11 lead labs on geothermal, and we've been  
12 working with them to get access to  
13 potential funding through DOE, both  
14 through the Infrastructure Act but also  
15 through potential use of ARPA money that  
16 we've had access to at the city.

17 Fundamentally, the geothermal  
18 system, while it is a heat utility, it is  
19 a water utility as well, and there are  
20 some ability to potentially use the ARPA  
21 funding for water infrastructure, so  
22 we're looking at that as well.

23 COUNCILMAN GREEN: And do you  
24 see other departments other than  
25 Department of Energy as opportunities for

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2 funding through the IIJA? One of the  
3 challenges that I've seen is that it's  
4 such a large piece of legislation, 1.7  
5 trillion, and there are a lot of  
6 different departments that have funding  
7 opportunities that may not be the ones  
8 you would traditionally think about but  
9 could provide some funding opportunities  
10 for a project in various cities.

11 So beyond the Department of  
12 Energy, are there other departments that  
13 you're looking at for possible funding  
14 opportunities?

15 MR. BURGOS: Chairman Green,  
16 thanks for the question. Part of the  
17 challenge has been kind of where is the  
18 funding going to be routed. What we're  
19 hearing more and more is that the funding  
20 is going to be routed to the states. So  
21 it will be the state government that will  
22 start to dole out the funding either  
23 through, for example, under -- in Idaho  
24 we're hearing more that the funding,  
25 water funding, will likely go through a

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2 state revolving fund through the state.  
3 We're trying to make a case that the  
4 geothermal system could be eligible for  
5 some of those drinking water, wastewater,  
6 and other types of water system funding.

7 And so not necessarily a  
8 department per se, but I think the more  
9 we talk with our folks that are in DC and  
10 talking with the Mayor's office, it's  
11 becoming apparent that most of the  
12 funding is coming through the state. And  
13 so we're very actively working with the  
14 State of Idaho and the different  
15 departments in the state, the state  
16 Department of Environmental Quality, for  
17 example, to make sure we understand how  
18 that money gets doled out and can it  
19 be -- some of it be used for expansion  
20 repair of our geothermal system downtown.

21 COUNCILMAN GREEN: One last  
22 question. Are you working with any  
23 consultants or other entities,  
24 professional services companies that are  
25 helping you to navigate some of the

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2 funding opportunities in DC? I know I've  
3 been hearing other cities have been doing  
4 that and I'm just curious if that is  
5 something that you're doing, especially  
6 for investment opportunities for your  
7 system.

8 MR. BURGOS: Thank you for the  
9 question, Chairman Green. Yes. We  
10 have -- we've retained Jacobs Consulting  
11 to help us navigate some of the ARPA  
12 funding pieces in particular, and we do  
13 have federal lobbyists that are in DC  
14 helping us navigate some of the wickets  
15 on the infrastructure funding. So we  
16 have retained consultants to help us do  
17 that.

18 COUNCILMAN GREEN: Thank you.  
19 That's one of the things I've been  
20 advocating to the Administration. I know  
21 that Mike Carroll from OTIS has been  
22 looking at that, but when I look at all  
23 of the various City departments, from  
24 Water, Airport, PGW, to try to have a  
25 more comprehensive approach to this

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2 opportunity, because it's a lot of  
3 different funding sources and it's  
4 difficult to navigate all of the various  
5 opportunities without having a more  
6 comprehensive strategy to address that.

7 So thank you for being here  
8 this morning providing your testimony.  
9 You provided some great information, and  
10 it kind of provides some initial context  
11 as we're continuing to look at how we  
12 diversify PGW.

13 Are there any questions from  
14 members of Council for this witness?

15 (No response.)

16 COUNCILMAN GREEN: Okay.  
17 Seeing none, thank you so much, and we  
18 look forward to continuing the  
19 conversation with you, and thank you.  
20 Please give my regards to your Mayor.

21 MR. BURGOS: I'll do that.  
22 Thank you, Chairman.

23 COUNCILMAN GREEN: Thank you.

24 Mr. Iannuzzi, if you could read  
25 the next list of speakers for the next

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2 panel.

3 THE CLERK: Anton Michels, Jack  
4 DiEnna, Linnea Bond, and Jonathan Schrag.

5 COUNCILMAN GREEN: If you could  
6 just state your name for the record. And  
7 also excuse me for one second. I'm going  
8 to come off screen and off mic. So we  
9 can go in that order.

10 MR. MICHELS: Hello. Good  
11 morning. My name is Anton Michels. Can  
12 you hear me?

13 COUNCILMAN GREEN: Yes. Please  
14 proceed with your testimony.

15 MR. MICHELS: Good morning,  
16 ladies and gentlemen. Thank you for the  
17 opportunity to testify in front of this  
18 Committee.

19 As I said, my name is Anton  
20 Michels. I moved 2007 to the City of  
21 Philadelphia and became 2008 the Chief  
22 Operating Officer of the German Society  
23 of Pennsylvania, the oldest German  
24 American organization in this country.  
25 We are in business since 1764. So we are

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2 even 12 years older than the United  
3 States. And I had the honor to serve as  
4 the German Society's President between  
5 2015 and 2016.

6 In this capacity, I was  
7 involved to answer the question what a  
8 customer, a customer of PGW, which we are  
9 since their founding in 1836, because we  
10 had multiple properties in the City of  
11 Philadelphia before we moved in 1879 to  
12 the what now West Poplar neighborhood,  
13 back then Northern Liberties neighborhood  
14 of the City of Philadelphia.

15 So we completed our new  
16 building in 1888 and moved into that area  
17 and are there ever since. And we are  
18 faced -- we faced firsthand all the  
19 changes that had happened to this  
20 neighborhood in the past 130 years, the  
21 ups and downs and the ups in recent days  
22 too.

23 We are in the middle of a  
24 neighborhood that is very diverse. We  
25 are next-door neighbors to the Spring

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2 Garden Street subsidized Philadelphia  
3 Housing Authority projects. So we are  
4 familiar with the problems that occur in  
5 low-income areas, at least to certain  
6 parts, because most of our members are  
7 not living close by. They're living in  
8 Philadelphia and all over Pennsylvania.

9 We had the challenge in the  
10 early 2010s to face the question how to  
11 replace our heating and cooling systems  
12 that's in our building. Of course our  
13 building was not air conditioned when it  
14 was built in 1888, but it had multiple  
15 systems that had been installed over  
16 130 years. You can imagine there was  
17 everything from a coal-fired stove to  
18 window units, you name it. So we made  
19 the decision that we want to replace all  
20 of that and tackle the project to air  
21 condition the entire -- heat the entire  
22 building.

23 We looked at different options.  
24 We hired, as a not-for-profit  
25 organization, we hired a consultant, and

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2 the consultant came up with different  
3 solutions, of which the geothermal  
4 solution was, of course, the most  
5 expensive, estimated in our case to  
6 \$2.6 million. We did not like what the  
7 consultants came up with, because we  
8 thought that their approach was too much  
9 offering off-the-shelf solutions. And  
10 since we were not afraid to discuss what  
11 kind of investment we could manage, we  
12 cancelled the contract with the  
13 consultants and decided that we do it on  
14 our own, because we would like to -- we  
15 wanted to use the entire potential of  
16 solutions.

17 So we decided not to apply for  
18 grants, because the grants would tie us  
19 to the use of certain companies in  
20 Philadelphia. So we decided to finance  
21 that on our own, and I'm proud to say  
22 that at the end of the day when we  
23 completed that system in 2021, we  
24 achieved to do the geothermal well field  
25 ground loop solution for a little more

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2 than 50 percent of what the consultants  
3 had estimated. We spent about  
4 \$1.35 million in establishing a ground  
5 loop well field under our parking lot,  
6 supplying the entire building of about  
7 20,000 square feet, including the  
8 opportunity to offer additional  
9 capacities to our neighbors, which we  
10 did. So we discussed early on if we  
11 would like to be part of a geothermal  
12 network in the neighborhood, and so we  
13 completed that system, and we are  
14 extremely happy.

15 We considered other things like  
16 the water air-sourced heat pumps, but we  
17 thought that these were not as efficient  
18 as we would like to have it. So we went  
19 for a company outside of Philadelphia  
20 establishing our well field as a  
21 closed-loop heat pump system, and we are  
22 very happy with it. And by doing so, it  
23 was, of course, difficult for an existing  
24 building that was not planned to have --  
25 to be supplied with a geothermal system.

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2 To implement that, we were able  
3 to do that over the time of five years  
4 without the interruption of our  
5 operation. We established business  
6 relationships with different local and  
7 not local companies who did the  
8 implementation. We acted at that time  
9 as, the German Society itself, as a  
10 general contractor, because we wanted to  
11 cut out the middleman, and coordinated  
12 the necessary work, plumbing and electric  
13 and all of that, by ourself. So that  
14 made it also possible to achieve the goal  
15 of not exceeding the budget.

16 Besides -- in my case, I was  
17 afraid to have the usual return on  
18 investment discussion with my Board at  
19 that time, and since we were able to  
20 establish proposals that would, let's  
21 say, show that we can do it for almost  
22 50 percent, we didn't have a single  
23 second of a return on investment  
24 discussion, because what we paid for for  
25 the geothermal well field system was

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2 exactly the same amount that a  
3 traditional system would have cost.

4 So we are very happy with that.

5 So at the end, we were asked to become  
6 co-founders of Geodelphia, an  
7 organization started by the Sierra Club  
8 and other organizations here in  
9 Philadelphia to promote the use of  
10 geothermal energy, and our pitch towards  
11 this Committee and the City of  
12 Philadelphia and PGW would be to start a  
13 pilot project in our neighborhood in  
14 which we would like to participate. We  
15 are suggesting that a pilot project  
16 should be at the core of the Edgar Allan  
17 Poe House on 7th Street. The Edgar Allan  
18 Poe House is in the, of course,  
19 possession of the National Park Service,  
20 and the National Park Service has anyways  
21 at this time a contract with PGW to  
22 replace the heating systems in that --  
23 for that building.

24 We believe that it would be  
25 possible to drill on the grounds of the

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2 National Park Service, the Poe House,  
3 enough wells to supply not just the Poe  
4 House with heating and cooling capacity  
5 but also the PHA community center next  
6 door, as well as the Guild House  
7 subsidized retirement facility next door.

8 So we would like to come out  
9 and bring in our experience in that  
10 regards to establish a networked  
11 geothermal project in the City of  
12 Philadelphia, and I'm glad that City  
13 Council is considering to change the  
14 guidelines for PGW to approach a project  
15 like that and maintain and develop  
16 sustainable jobs for the PGW staff in the  
17 future.

18 Thank you for giving me the  
19 opportunity to testify.

20 COUNCILMAN GREEN: Thank you  
21 for your testimony.

22 Our next witness is Jack  
23 DiEnna, to be followed by Ms. Bond and  
24 Jonathan Schrag.

25 MR. DiENNA: Thank you,

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2 Chairman Green. My name is Jack DiEnna.  
3 I'm the Executive Director of the  
4 Geothermal National and International  
5 Initiative. I'm also an ambassador of  
6 the International Ground Source Heat Pump  
7 Association and also a founding member of  
8 New York Geo, PA Geo, California Geo, and  
9 many other geothermal associations.

10 I've been in this business in  
11 geothermal for approximately 35 years,  
12 and I touch about 40 percent of all the  
13 commercial and institutional projects in  
14 the United States. I also happen to live  
15 in Delaware County, Springfield.

16 I'm going to approach this a  
17 little bit differently, because I'm also  
18 a utility employee or was a utility  
19 employee, retired. This technology,  
20 which is actually as most people have  
21 stated, it uses the thermal energy from  
22 the earth to provide heating and cooling  
23 to facilities. And what I want to talk  
24 about is this whole -- the whole idea of  
25 networking geothermal.

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2 Right now I am suggesting that  
3 the networking system that PGW looks at  
4 in this whole study that you're  
5 doing would be --

6 COUNCILMAN GREEN: Mr. DiEnna,  
7 please hold on one second.

8 Anyone that's not speaking,  
9 please mute your microphone so we just  
10 hear Mr. DiEnna and no background noise.  
11 Thank you.

12 MR. DiENNA: Thank you,  
13 Chairman.

14 The system I'm promoting is one  
15 that uses the K to 12 schools as the  
16 anchor tenant for a geothermal system.  
17 I'm not sure. I'll give you some facts  
18 on, one, this technology, but K to 12  
19 schools are the second largest public  
20 infrastructure investment in the U.S. and  
21 actually in Philadelphia also, and  
22 they're one of the biggest energy  
23 consumers in the public sector.

24 K to 12 schools also consume  
25 about eight percent of all the energy

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2 used in commercial buildings and emits as  
3 much carbon dioxide as 18 coal-powered  
4 plants. The average age of a K to 12  
5 school in Philadelphia is 49 years old.  
6 So 49 years old is probably being kind.  
7 If we talk about the future of  
8 Philadelphia and who that future is, by  
9 the time a student graduates high school,  
10 they spend about 15,600 hours inside a  
11 school. That's only second to the time  
12 spent at home.

13 Heating Olney School, which is  
14 99 percent of the schools in  
15 Philadelphia, has a relative humidity of  
16 10 to 20 percent. There are two studies  
17 right now by Harvard and Yale that states  
18 higher relative humidity impedes the  
19 transmission of respiratory viruses. If  
20 that sounds familiar, that's COVID. By  
21 putting -- by installing geothermal  
22 technology in schools, we raise that  
23 relative humidity to 40 to 60 percent.

24 Now, why I'm saying this is the  
25 fact that a networked system or planning

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2 a networked system in a neighborhood  
3 involves quite a bit of disruption, but  
4 if we were to use the school as the  
5 anchor tenant for that network; in other  
6 words, we would install a system in a  
7 school, install the system in the soccer  
8 field, in the parking lot, wherever it  
9 would be, that school would always be the  
10 anchor tenant for that technology. It  
11 would support the fact and show PGW and  
12 the City of Philadelphia the value of  
13 this technology. It would also allow for  
14 the training of the professionals or the  
15 workforce of PGW.

16 As I stated before, I'm an  
17 ambassador for this industry. This  
18 technology uses high-density polyethylene  
19 pipe to take the thermal energy from the  
20 ground into the school. So we operate on  
21 BTUs.

22 What PGW -- the value for this  
23 for PGW is, they can also sell that same  
24 BTUs as opposed to selling CCFs. The  
25 difference between this is the fact that

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2 as a gas company right now, they're  
3 one-dimensional; in other words, they  
4 only sell heating. By adopting  
5 geothermal heat pump technology, they  
6 actually become a space conditioning,  
7 meaning heating and cooling.

8 So I'm saying that the pilot  
9 programs that you should look at should  
10 be centered around schools.

11 Probably very few people are  
12 aware that the City of Philadelphia had  
13 some of the very first geothermal  
14 applications in buildings. The Ronald  
15 McDonald House was the very first Ronald  
16 McDonald House in the nation, that has  
17 geothermal technology in it, geothermal  
18 heat pump technology in it.

19 The West Philadelphia  
20 Enterprise Center, which is 46th and  
21 Market, the old Bandstand KYW building,  
22 has geothermal -- it's now the West  
23 Philadelphia Enterprise Center. That has  
24 geothermal system in it.

25 The New Kensington Art School

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2 is totally geothermal.

3 So this is -- I'm looking at  
4 this not as just a pilot program to see  
5 whether it works. This technology is  
6 45 years old. I happen to sit on the  
7 DOE's Geothermal Visionary Team. So we  
8 are not talking about feasibility of  
9 geothermal heat pumps. We're talking  
10 about what it would do not only for PGW  
11 but for the City of Philadelphia, and I  
12 believe that using schools as the pilot  
13 projects would, one, be easier as far as  
14 installing the infrastructure. Two, it  
15 would give us a way to have the current  
16 workforce of PGW be acclimated to what  
17 they would be doing with geothermal  
18 technology, and it would also support  
19 moving forward a viable business  
20 alternative for PGW. But primarily it  
21 would also give the students that attend  
22 our schools a better learning environment  
23 and hopefully a safer and healthier  
24 environment and show them that renewable  
25 energy can be used to everyone's benefit,

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2 reducing emissions, lowering energy  
3 costs, and providing very good jobs for  
4 the City of Philadelphia.

5 I should mention I'm also Board  
6 Chairman for Community Action Agency of  
7 Delaware County. We run five shelters.  
8 We actually have bought an elementary  
9 school that we have geothermal installed  
10 in. We probably deal with about -- we  
11 take people from total dependency to  
12 total self-sufficiency.

13 So, like I said, I've been  
14 doing this for a long time, and I  
15 think -- I would -- I put together teams  
16 that make sure that this gets done right.  
17 So I'm at your service. If you choose, I  
18 would be glad to help you in this  
19 venture.

20 And, once again, I'm looking at  
21 this as a new business opportunity for  
22 PGW, because they've got to have -- if  
23 they're going to move to the future,  
24 they've got to have a way to do it, and I  
25 believe geothermal heat pumps are one way

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2 to do it.

3 Thank you, Chairman.

4 COUNCILMAN GREEN: Thank you  
5 for your testimony, and as you were  
6 talking, it made me think about the work  
7 we've done with the Philadelphia Energy  
8 Authority and really providing the  
9 opportunity to bring solar panels to  
10 schools in the City of Philadelphia and  
11 also provide the opportunity to expose  
12 young people to that green-collar  
13 industry, and there's been a number of  
14 young people who are now moving into that  
15 industry.

16 So thank you for your ideas and  
17 suggestions. It helps to add to this  
18 conversation of the possibilities for the  
19 future.

20 We'll now have Ms. Bond and  
21 Mr. Schrag.

22 MS. BOND: Hi. Good morning.  
23 My name is Linnea Bond and I'm speaking  
24 on behalf of Physicians for Social  
25 Responsibilities, Pennsylvania Chapter,

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2 representing doctors and nurses, public  
3 health professionals, and consumer  
4 protection advocates dedicated to  
5 promoting public health.

6 I want to acknowledge the  
7 challenges in staying engaged in an  
8 online hearing for this long, and I am  
9 grateful for the opportunity to speak to  
10 the Council this morning.

11 The medical field recognizes  
12 the immediacy of the human health crisis  
13 of climate change. In early April, the  
14 IPCC released research that in order to  
15 eliminate global emissions by 2050, the  
16 initiatives must peak by 2025 and halve  
17 by 2030. As the City of Philadelphia is  
18 committed to the 2050 deadline, I ask  
19 members of City Council today to ensure  
20 PGW's transition is aligned with this  
21 path.

22 Speaking on behalf of medical  
23 professionals, I must acknowledge first  
24 that natural gas is a harmful substance,  
25 from extraction through the supply line

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2 to use. Living close to gas extraction  
3 sites increases the risk of premature  
4 birth and congenital heart defects.  
5 Indoor air is often two to five times  
6 more polluted than outdoor air due to  
7 factors like unvented natural gas, and  
8 Americans spend 90 percent of their time  
9 indoors on average.

10 A meta-analysis of 41 studies  
11 found that children living in homes with  
12 gas stoves have a 42 percent increased  
13 risk of experiencing asthma symptoms and  
14 a 24 percent increased risk of ever being  
15 diagnosed with asthma by a doctor in  
16 their lifetime.

17 The Asthma and Allergy  
18 Foundation of America ranks Philadelphia  
19 the seventh most challenging city to live  
20 with asthma. Gas leaks throughout the  
21 supply chain, as Nicholas Pevzner so  
22 clearly laid out, putting neighborhoods  
23 at risk for deadly explosions.

24 I echo the concerns of Bishop  
25 Royster, Steve Luxton, and others that

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2 these issues affect us all but fall  
3 disproportionately on our lowest-income  
4 residents.

5 Even setting aside all of the  
6 harms I've stated, the fact remains that  
7 the extraction, transportation, and use  
8 of natural gas is one of the major  
9 contributors to climate change. Methane  
10 from natural gas is the second largest  
11 source of carbon pollution after oil.

12 From a public health  
13 perspective, building electrification, as  
14 Ashita Gona and others spoke of in their  
15 testimony, is our only option.  
16 Geothermal energy is the only safe choice  
17 PGW has had. PGW's proposal of investing  
18 in green washed renewable gas, so-called  
19 decarbonized gas, is not our solution,  
20 because according to the PGW  
21 diversification study, decarbonized gas  
22 still emits carbon.

23 We have no option but to stop  
24 using fossil fuels and build sustainable  
25 infrastructure immediately. Any more

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2 time and money spent on building or  
3 facilitating the sustained use of natural  
4 gas in any carbon-emitting form is  
5 working against our healthy, sustainable  
6 future.

7 City Councilmembers should  
8 include in the ordinance establishing  
9 PGW's Fiscal Year '23 capital budget a  
10 requirement that PGW perform the thermal  
11 network advanced engineering work  
12 proposed by POWER in Fiscal Year '23.  
13 Physicians for Social Responsibility  
14 Pennsylvania calls on the City Council to  
15 make this requirement part of approving  
16 PGW's capital budget, because it relates  
17 to preparation for potential future  
18 capital investments by PGW and thermal  
19 networks on behalf of the health of  
20 Philadelphians.

21 Thank you for your time today.

22 COUNCILMAN GREEN: Thank you,  
23 Ms. Bond.

24 Mr. Schrag.

25 MR. SCHRAG: Thank you. Good

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2 morning. Can you hear me all right?

3 Can you hear me, Chairman

4 Green?

5 COUNCILMAN GREEN: Yes.

6 Proceed with your testimony.

7 MR. SCHRAG: Thank you. Thank

8 you, Chairman Green and Councilmembers.

9 My name is Jonathan Schrag. I'm engaged

10 as a consulting gas expert on behalf of

11 the Clean Air Council, and I'm grateful

12 for this opportunity to speak with you.

13 I've got an extensive

14 background in gas regulation. Most

15 recently, from 2016 to 2020, I was the

16 Deputy Administrator of the Rhode

17 Island's Division of Public Utilities

18 responsible for regulating natural gas

19 utilities across the state, and I

20 currently work as a consulting expert to

21 the Massachusetts Office of the Attorney

22 General, Maura Healey, on gas matters.

23 Previously I served as the first

24 Executive Director of the Regional

25 Greenhouse Gas Initiative, and my work

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2 focuses on how regulation can incentivize  
3 or require utilities to decarbonize.

4 I'm speaking to you today from  
5 the south end of Boston, a neighborhood  
6 that first received gas in 1832 and is  
7 trying to decarbonize.

8 What I'd like to talk with you  
9 about today are changes taking place in  
10 the U.S. natural gas business and the  
11 things PGW should do to protect  
12 Philadelphia's gas ratepayers, especially  
13 its most at-risk customers.

14 Some of it you've heard from  
15 other speakers. I've heard -- everything  
16 that I have heard I have agreed with, and  
17 I have heard nothing today that I  
18 disagree with.

19 I've got some new information  
20 for you that I think will be helpful,  
21 especially as a former gas regulator. I  
22 want to suggest a series of concrete  
23 steps that you can take.

24 So what are the changes  
25 affecting the gas industry? First, the

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2 price of the gas commodity. In the last  
3 year, gas has more than doubled.

4 Philadelphia is particularly exposed to  
5 volatile and rising prices, as it sits at  
6 the end of regional pipelines and must  
7 rely on expensive liquefied natural gas  
8 storage.

9 Second, over the last five  
10 years, U.S. gas supply has become  
11 integrated with global markets through  
12 LNG export terminals. And here, a  
13 shout-out to Councilmember Jones for his  
14 insightful question. Before 2017, gas  
15 produced in North America stayed here,  
16 but the gas industry lobbied hard in 2016  
17 and '17 to expand authorization for gas  
18 LNG exports. Those export terminals now  
19 allow North American gas to move around  
20 the world to whichever places are willing  
21 to pay the most. So U.S. gas customers  
22 must now compete with customers all over  
23 the world and pay higher prices that  
24 result from international events,  
25 whatever they may be, a nuclear accident

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2 in Japan or a war in Ukraine.

3 Third, the cost of the gas  
4 pipeline capacity is increasing. This is  
5 one of the most complex areas of the gas  
6 business, the procurement of gas pipeline  
7 capacity from interstate wholesale  
8 shippers. Gas regional pipelines are  
9 full. Capacity is expensive, and as a  
10 result, PGW must rely on LNG storage to  
11 meet peak winter demand.

12 Reducing gas consumption can  
13 pay dividends when cumulative consumption  
14 drops to what the pipeline can carry,  
15 allowing PGW to release the cost that it  
16 pays for storage.

17 Finally, as you've heard, new  
18 electric end-use technologies, air-source  
19 or ground-source heat pumps, will require  
20 gas companies to compete for customers in  
21 a way that they haven't had to in the  
22 past. These are all new risks and new  
23 pressures affecting PGW.

24 And so the best path for PGW to  
25 manage these risks is to diversify its

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2 business. It will offer an opportunity  
3 for PGW to shed some of its current costs  
4 as demand for gas declines. In the  
5 diversification study, those costs are  
6 estimated to not exist, but in fact  
7 looking through PGW's filings, one can  
8 see that there may be as much as  
9 \$40 million annually in savings from  
10 reduced storage.

11 In the February 9th public  
12 hearing, PGW management articulated its  
13 opposition to business diversification  
14 and its commitment to a business-as-usual  
15 strategy. This is contrary to City  
16 policy, overlooks long-term risks to the  
17 PGW enterprise, and is inconsistent with  
18 the best practice of gas utilities in  
19 other parts of the Northeast.

20 Now, it's always going to be  
21 easier to effect change if utility  
22 management is a willing partner, but  
23 sometimes we all need a nudge to realize  
24 that we need to be good partners. Given  
25 the current PGW management's opposition

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2 to business diversification, this  
3 Committee should give PGW a nudge,  
4 requiring them to execute specific and  
5 concrete actions.

6 So what are some of those  
7 actions?

8 First, PGW should develop a  
9 weatherization finance and service  
10 business. Building on the  
11 diversification study recommendation,  
12 require that PGW submit a business plan  
13 within six months and to assign an  
14 appropriate business leader within PGW to  
15 serve as an executive of this new  
16 business.

17 PGW should immediately  
18 undertake this pilot project for  
19 networked geo districts. You should  
20 build on the study recommendations again  
21 and require the Office of Sustainability  
22 to commission a feasibility study.

23 PGW needs to develop a site  
24 selection process. PGW should complete a  
25 cost estimate and find an existing

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2 neighborhood to site the project. The  
3 Office of Sustainability should find a  
4 way to construct housing, new housing,  
5 utilizing a geo district. And PGW,  
6 again, needs to find an appropriate  
7 business leader to act as an executive  
8 who will lead this important division for  
9 the next decade.

10 PGW needs to develop  
11 organizational capacity around a tactical  
12 thermal transition to understand the key  
13 reliability and revenue interactions  
14 between gas and electric systems on a  
15 block-by-block level. That means  
16 creating a digital gas system map as the  
17 basis for system planning. That map can  
18 be shared by regulators, the utility, and  
19 stakeholders. It should identify load  
20 centers, maximum hourly load, and zones  
21 in which upgrades may be needed in the  
22 near future.

23 They should submit a plan to  
24 interact with PECO to plan strategic  
25 electrification, and on this planning

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2 function, this information  
3 technology-heavy function, they need to  
4 assign an appropriate business leader to  
5 act as an executive to lead.

6 PGW needs to submit an  
7 investment alternatives cost calculator  
8 to evaluate the benefits and costs of  
9 particular investments in a transparent  
10 and explicit way. Utilities have to  
11 analyze investments all the time. That's  
12 what business leaders do. But PGW needs  
13 to make the calculations they do and the  
14 equations they run, the comparisons they  
15 make explicit, and they need to reflect  
16 the risks and the factors that matter to  
17 the City Council.

18 Finally, the Office of  
19 Sustainability needs to be empowered with  
20 sufficient expertise to engage in gas  
21 regulatory discussions with PGW.  
22 Utilities respond to the regulatory  
23 process, not general policy statements.  
24 If PGW management will not seriously  
25 undertake a program of business

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2 diversification in response to the City  
3 Council's leadership, then you can make  
4 approval of the PGW operating and capital  
5 budgets conditional on the implementation  
6 of a list including these  
7 recommendations.

8 And, finally, just as utility  
9 businesses, enterprises responds to  
10 financial incentives, so too do its  
11 executives. This is a sensitive area,  
12 and I want to speak carefully, but it is  
13 an appropriate exercise of the Council's  
14 oversight authority for it to investigate  
15 how the professional expertise and  
16 executive compensation of current PGW  
17 leadership align with the future mission  
18 of PGW.

19 For example, all of the seven  
20 executives listed as leadership appear to  
21 have long gas industry backgrounds.  
22 Which ones will have responsibility for  
23 development of analytic tools to plan gas  
24 demand in coordination with PECO? Which  
25 executive will be responsible for

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2 developing new businesses? Should  
3 compensation levels be egested to reflect  
4 current skills and relevance to the  
5 decarbonization mission? Is it  
6 appropriate for the Council to send a  
7 signal of dissatisfaction through  
8 executive compensation?

9 For example, Mr. Shapiro  
10 receives \$450,000 annually in  
11 compensation and is eligible for an  
12 additional 10 percent bonus at the  
13 discretion of the Philadelphia Facilities  
14 Management Corporation. On what basis  
15 does he earn that additional \$45,000, and  
16 could the Council tie execution of the  
17 recommendations here to bonus  
18 compensation?

19 Other jurisdictions across the  
20 United States are recognizing the  
21 changing dynamics within the gas  
22 industry. In Massachusetts, in  
23 California, and in New York, there are  
24 new planning processes and new  
25 compensation processes taking hold.

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2 Together, these three jurisdictions are  
3 beginning to reform the operations of gas  
4 utilities.

5 The citizens who are most at  
6 risk and least able to pay the higher  
7 bills will be the ones who suffer as a  
8 result of PGW's failure to address the  
9 risks and business opportunities outlined  
10 here. As customers with the means to  
11 reduce gas consumption, to upgrade their  
12 installations or install heat pumps,  
13 switch away from gas, low-income  
14 customers will pay the remaining fixed  
15 costs of the gas system. Taking steps  
16 toward business diversification today is  
17 a step toward protecting citizens for  
18 decades to come.

19 Thank you.

20 COUNCILMAN GREEN: Thank you  
21 for your testimony.

22 Are there any questions from  
23 members of Council for this panel?

24 (No response.)

25 COUNCILMAN GREEN: I do not see

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2 any comments or questions from members of  
3 Council. I believe that's the last  
4 panel. We do have some here who are  
5 signed up for public comment.

6 Mr. Iannuzzi, if you could read  
7 those names.

8 THE CLERK: Pamela Darville,  
9 Shawn Hogan, John Braxton, Winn  
10 Costantini, Rachel Mulbry, and William  
11 Cozzens.

12 COUNCILMAN GREEN: Okay. Are  
13 those parties here to testify?

14 MS. DARVILLE: Yes. I'm Pamela  
15 Darville. I'm here.

16 COUNCILMAN GREEN: Okay. And  
17 that was Ms. Darville. What about Shawn  
18 Hogan?

19 MS. HOGAN: Yes. I am here.

20 COUNCILMAN GREEN: I saw John  
21 Braxton.

22 Winn Costantini?

23 MR. COSTANTINI: Yes. I'm  
24 here.

25 COUNCILMAN GREEN: Okay.

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2 Rachel Mulbry?

3 MS. HOGAN: She will be able to  
4 make it back by 12:15.

5 COUNCILMAN GREEN: Okay. The  
6 hearing may be concluded by then.

7 Also is William Cozzens here?

8 MR. COZZENS: Yes. I am here.  
9 I'm having trouble turning my camera on,  
10 but I'm working on that.

11 COUNCILMAN GREEN: Okay. We  
12 will testify in that order.

13 Also, because this hearing has  
14 lasted longer than anticipated, I also  
15 have another matter I have to attend to,  
16 so I will be off camera, but we will  
17 start with Ms. -- let me make sure I got  
18 the correct pronunciation --  
19 Ms. Darville.

20 MS. DARVILLE: Thank you.

21 COUNCILMAN GREEN: Also, one  
22 other quick note, because we have had a  
23 long hearing and we know the stenographer  
24 also has been here for some time, we're  
25 going to ask that everyone can complete

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2 their presentation in less than three  
3 minutes.

4 MS. DARVILLE: Thank you, sir.  
5 Good morning. Good morning,  
6 Chairman Green. Good morning,  
7 Councilmembers. My name is Pamela  
8 Darville. I am a resident of Germantown  
9 Philadelphia and I'm here to request that  
10 City Council instruct PGW to invest in  
11 thermal network advanced engineering work  
12 in its Fiscal Year 2023 capital budget,  
13 and I'm making that request for two  
14 reasons.

15 Based on the testimony that's  
16 been presented today, it's clear that  
17 geothermal energy is cleaner and is  
18 cheaper than the use of fossil fuels.

19 As I said, I'm a resident of  
20 Germantown. I live in one of those big  
21 houses in Germantown, old house, which  
22 costs a lot to heat during the winter  
23 months. My heating bill averages from  
24 \$2,000 to \$3,000. Even though I'm on a  
25 budget plan, my monthly bill is close to

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2 \$300 to \$400. As Bishop Royster  
3 testified, this bill is a challenge at  
4 times to pay, and with the use of  
5 geothermal energy based on what we've  
6 been told today in testimony, that type  
7 of energy is cheaper. It's cleaner,  
8 based on the testimony today.

9 I'm sure people are familiar  
10 with the UN report on climate change that  
11 there is an urgency to address the issues  
12 that climate change presents, and with  
13 the use of geothermal energy replacing  
14 fossil fuels, we can accomplish that.

15 Thank you for allowing me to  
16 present my testimony today and -- thank  
17 you.

18 COUNCILMAN GREEN: Thank you.  
19 The next witness, please  
20 proceed.

21 MS. HOGAN: Hi. My name is  
22 Shawn Hogan. I'm actually going to read  
23 Rachel Mulbry's testimony, because she  
24 won't be able to make it back in time.  
25 So whenever I say "I," I'm speaking from

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2 Rachel's perspective.

3 So my name is Rachel. I'm a  
4 PGW ratepayer and a member of Philly DSA.  
5 I'm here today because I need PGW and PGW  
6 needs me. I'm here because our futures  
7 are woven together, and the  
8 diversification study and upcoming annual  
9 budget should tell that story but don't.

10 I'm also here to tell you about  
11 how my father called me a couple weeks  
12 ago with pride in his voice to tell me  
13 that he and my mom have fully  
14 transitioned their house off of gas. The  
15 old furnace was gone, and an electrician  
16 had come in to wire the kitchen for an  
17 induction stove.

18 My parents could afford to  
19 electrify their home thanks to their  
20 pensions from decades working in  
21 high-paying public-sector jobs, not  
22 unlike the jobs that give PGW workers,  
23 families, and communities financial  
24 security. Those are the kinds of jobs  
25 that make me proud to live in a place

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2 with a public gas utility and not a  
3 privatized one.

4 My dad said that I should start  
5 saving to do the same, that getting off  
6 of gas is the right thing to do for the  
7 climate and for loved ones like my  
8 sister, who spent so many hours as a kid  
9 breathing through a nebulizer because of  
10 asthma.

11 PGW can't afford to lose more  
12 people like my parents, and none of them  
13 can afford to lose good jobs like the  
14 ones that my parents had and that PGW  
15 creates. And the future looks bleak for  
16 all of us in the absence of a real plan  
17 is to just saddle poor Philadelphians  
18 with even heavier loads of utility debt.

19 The study pretends that we  
20 don't need each other. It says that  
21 tomorrow won't look that much different  
22 than yesterday despite all of the  
23 evidence.

24 Right around the time my dad  
25 called me, the UN Secretary General said

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2 that we have 30 months to start reducing  
3 global greenhouse emissions to have any  
4 chance at all of preventing the worst  
5 impacts of the climate crisis. Thirty  
6 months.

7 We need to pay for a pilot of  
8 networked geothermal now, not in one year  
9 or two, after more consultants write more  
10 reports. We need PGW to cut line items  
11 like replacing the LNG coal box for  
12 14.5 million and instead add funding for  
13 installing heat pumps and electric  
14 stoves, retaining customers like my  
15 parents who would otherwise leave on  
16 their own, and others like my neighbors  
17 who are falling behind over even higher  
18 bills.

19 PGW needs us and we need PGW.  
20 We can honor our interdependence by  
21 looking the future straight on and  
22 committing to get off fossil fuels with  
23 the speed and commitment that honors the  
24 value of our own lives and those of our  
25 loved ones.

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2 PGW is owned by us, the people  
3 of Philadelphia. We are here and we are  
4 watching how you decide to act.

5 Thank you.

6 THE CLERK: The next speaker  
7 should go ahead.

8 MR. BRAXTON: I believe that is  
9 me, unless I'm jumping ahead of anybody.  
10 My name is John Braxton. I am Assistant  
11 Professor of Biology at Community College  
12 of Philadelphia. I hold a Graduate  
13 degree in ecology, and I've been a leader  
14 in both the Teamsters Union and the  
15 American Federation of Teachers, with  
16 40-plus years of experience in each of  
17 these areas. I'm also a member of  
18 Philadelphia DSA, and with this  
19 background, I bring the twin perspectives  
20 of the importance of, one, moving away  
21 from fossil fuels as rapidly as possible  
22 and, two, preserving union jobs that are  
23 essential to the economic stability of  
24 our city. These two goals must not be  
25 separated from each other.

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2           Regarding the first goal, if we  
3 as a society don't cut our fossil fuel  
4 use approximately in half by 2030, we  
5 risk catastrophic storms, floods,  
6 droughts, and wildfires. It may seem  
7 contradictory to speak in the same  
8 sentence about floods and droughts, but  
9 we need only remember the  
10 drought-enhanced massive wildfires in  
11 California last summer where my sister's  
12 entire town burned down, and at the same  
13 time, we remember the storm that filled  
14 the Vine Street Expressway with 20 feet  
15 of water.

16           Catastrophes such as these will  
17 continue to happen with more frequency if  
18 we don't drastically and rapidly reduce  
19 our use of fossil fuels, and they will  
20 continue to happen right here in  
21 Philadelphia.

22           Regarding the second goal, we  
23 can't force the working people in our  
24 city to bear the brunt of the difficult  
25 transition away from fossil fuels. It

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2 would be unjust to punish the workers who  
3 have supplied our city with heat for so  
4 many decades, and it will be politically  
5 impossible to move away from fossil fuels  
6 unless we have the support of the  
7 working-class majority in our city. The  
8 problem is that the proposed PGW budget  
9 does not come close to meeting either of  
10 those goals.

11 Since PGW is responsible for a  
12 significant portion of the greenhouse gas  
13 emissions in Philadelphia, it is  
14 essential that City Council ensures that  
15 PGW starts making real plans now. First,  
16 to electrify all buildings in the City by  
17 use of geothermal and air-source heat  
18 pumps. Most immediately, PGW must commit  
19 to including a networked geothermal pilot  
20 in the capital budget, as suggested by  
21 POWER and others.

22 Second, start training the  
23 current PGW workforce now in these new  
24 technologies so that good union jobs are  
25 preserved.

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2 You know, it's ironic, but  
3 continuing to invest in fossil fuels  
4 today when renewables are becoming so  
5 much cheaper all the time is comparable  
6 to investing in canals in the 1840s when  
7 the railroads were coming online. It  
8 just doesn't make any sense at all.

9 THE CLERK: John, I'm sorry to  
10 cut in, but your three minutes is just  
11 up, so if you could just wrap up, that  
12 would be appreciated. Thank you.

13 MR. BRAXTON: Thank you. I  
14 just have one more paragraph and we'll  
15 wrap up very promptly. Thank you very  
16 much.

17 This is not an abstract  
18 problem. Climate change is here. It's  
19 now. We have to do our part to limit the  
20 damage and to support the workers that  
21 have for so long supported us. Justice  
22 delayed is justice denied.

23 We, the citizens of  
24 Philadelphia, are watching. We will hold  
25 our political leaders accountable. We,

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2 the citizens, can be remembered for  
3 allowing PGW to drag its feet, the modern  
4 equivalent of almost literally fiddling  
5 while Rome burned.

6 Alternatively, City Council can  
7 take the lead, become a model for other  
8 cities across the country in providing a  
9 transition away from fossil fuels and a  
10 just transition for our workers. In so  
11 doing, City Councilmembers will be  
12 remembered for rising to the occasion and  
13 dealing with this climate crisis. Please  
14 do the right thing.

15 Thank you very much for your  
16 time.

17 THE CLERK: Winn.

18 MR. COSTANTINI: Hi. My name  
19 is Winn Costantini and I am testifying  
20 today as a member of Philly DSA.

21 Earlier this week the Gas  
22 Commission rejected POWER Interfaith's  
23 proposal to include \$500,000 in the  
24 capital budget for a networked geothermal  
25 pilot. PGW's newly approved capital

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2 budget reflects their commitment to  
3 fossil fuel producers, lobbyists, and the  
4 personal interests of their management.  
5 What's more, PGW is now also attempting  
6 to block public participation in their  
7 operating budget process, a transparent  
8 move that shows that PGW is not committed  
9 to meeting the needs of current and  
10 future Philadelphians.

11 If the City Council is  
12 genuinely committed to addressing the  
13 climate emergency, it cannot entertain  
14 any claims that funding new gas  
15 infrastructure and long-term maintenance  
16 of our current gas infrastructure is  
17 somehow in the interest of Philadelphians  
18 or the environment. We must view every  
19 dollar spent on gas infrastructure,  
20 including renewable natural gas, as one  
21 that could instead be spent on ensuring  
22 long-term job stability for PGW workers  
23 and new union jobs for Philadelphians,  
24 preventing asthma and other respiratory  
25 health issues through improved air

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2 quality, programs to address the urgent  
3 issues of utility burden and housing  
4 disrepair, investing in renewable energy  
5 projects, and developing networked  
6 geothermal and other electrification  
7 pilots so we can have an equitably  
8 decarbonized city.

9 The City Council must take this  
10 opportunity in front of them to require  
11 that PGW operate in the interests of all  
12 Philadelphians. City Council must  
13 prevent PGW from restricting public  
14 participation in future budget processes  
15 and must also require that PGW invest in  
16 technologies like networked geothermal,  
17 which have the greatest potential to  
18 decarbonize our city while preserving and  
19 expanding these good union jobs.

20 Thank you.

21 MR. COZZENS: Hello. This is  
22 Bill Cozzens, and I apologize. I am --

23 THE CLERK: William, I'm sorry.  
24 Rachel is actually ahead of you.

25 MR. COZZENS: Oh, I'm sorry.

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2 MS. HOGAN: Sorry. She's not  
3 able to make it. That's why I read her  
4 testimony.

5 THE CLERK: Oh, I'm sorry. My  
6 apologies. Go ahead, William.

7 MR. COZZENS: Thank you very  
8 much.

9 My name is William or Bill  
10 Cozzens. I'm a resident of East Mount  
11 Airy, and Councilperson Bass is my  
12 representative on City Council.

13 I'm here to speak in favor that  
14 City Council require that PGW allocate  
15 the \$500,000 in its capital budget for  
16 the networked geothermal planning of the  
17 pilot project, and what I would like to  
18 focus on in my brief testimony is the  
19 social and racial justice impact of not  
20 transitioning off of fossil gas.

21 We are already seeing higher  
22 and middle-income households making that  
23 transition, as one of the previous people  
24 spoke. In my neighborhood in East Mount  
25 Airy, I know within two blocks of my

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2 house, I know of three houses that have  
3 installed air-source heat pumps and in  
4 one case solar panels, and they have  
5 moved completely off of fossil gas, and I  
6 believe that trend is going to continue  
7 over time.

8 We are seeing proposed federal  
9 legislation which would provide tax  
10 incentives, tax credits for households to  
11 electrify their use of -- electrify their  
12 utilities, installing heat pumps,  
13 induction stovetops, and air-source water  
14 heater -- air-source heat pump water  
15 heaters.

16 As this trend continues, we're  
17 going to see more and more middle- and  
18 higher-income households will be able to  
19 move off of fossil gas, and gas  
20 consumption will drop. PGW's fixed costs  
21 will be spread over shrinking volume of  
22 gas sales. To cover these fixed costs,  
23 PGW will be in a position of having to  
24 increase the delivery rates for  
25 delivering gas. With higher-income

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2 households using less gas or no gas at  
3 all, the poorer people, the low-income  
4 and moderate-income Philadelphians, will  
5 be left holding the bag. They'll be the  
6 ones who will -- households and landlords  
7 that cannot afford to electrify will be  
8 the ones paying these higher rates.

9 These higher rates will  
10 reinforce the energy burden and poverty  
11 of Philadelphia. You'll see rising  
12 inability to pay and higher bill  
13 delinquencies. This will become an even  
14 more severe economic and social justice  
15 issue. Several other speakers have  
16 referred to this. Peter Winslow referred  
17 to it as the death spiral. Jonathan  
18 Schrag, who preceded me just briefly,  
19 emphasized this growing cost burden due  
20 to the departure of higher-income  
21 consumers from the PGW network.

22 So I urge City Council to  
23 restore the \$500,000 in the capital  
24 budget allocated to planning the  
25 networked geothermal pilot projects.

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2 Thank you for your attention.

3 THE CLERK: I think the Chair  
4 is having a technical difficulty. Hold  
5 on one second.

6 COUNCILMAN GREEN:

7 Mr. Iannuzzi, thank you. Was that our  
8 last witness to speak?

9 THE CLERK: Yes, Mr. Chair.

10 COUNCILMAN GREEN: I just want  
11 to close this hearing and thank all of  
12 the participants for being in the hearing  
13 today. We will not recess -- we will  
14 recess this hearing to the call of the  
15 Chair, because I believe there will be  
16 opportunity to have ongoing conversations  
17 regarding diversification of PGW. Just  
18 like the fact we had to bring in speakers  
19 from Boise and from other parts of the  
20 country, I think there's going to be some  
21 opportunity to continue this  
22 conversation. And I know I'm currently  
23 looking at a national organization that  
24 can help with the geothermal discussion  
25 and some of the other discussions.

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2 I know funding will be part of  
3 upcoming budgets for PGW to focus on PGW  
4 and some of the other diversification  
5 opportunities with PGW and how we can  
6 transition into a different future.

7 As I stated earlier in the  
8 beginning of this hearing, PGW started as  
9 a lighting company in 1836, and we've  
10 made other transitions, and if you saw  
11 the interesting presentation from  
12 Professor Pevzner, there's an opportunity  
13 for PGW to transition like other  
14 utilities have done as well.

15 So thank you for your time and  
16 energy. Look forward to continuing the  
17 conversation as we move forward.

18 This hearing is recessed to the  
19 call of the Chair.

20 COUNCILMAN DOMB: Thank you,  
21 Mr. Chair.

22 COUNCILMAN SQUILLA: Thank you,  
23 Mr. Chair. Good job.

24 - - -

25 (Committees on Finance and

1 4/29/22 - FINANCE/TRANSPORTATION - RES. 210653

2 Transportation and Public Utilities

3 adjourned at 12:11 p.m.)

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CERTIFICATE

I HEREBY CERTIFY that the  
proceedings, evidence and objections are  
contained fully and accurately in the  
stenographic notes taken by me upon the  
foregoing matter, and that this is a true and  
correct transcript of same.

-----

MICHELE L. MURPHY  
RPR-Notary Public

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