A memo regarding Montague and the Massachusetts C-PACE program
From Ariel Elan to fellow members of the Montague Selectboard
cc: Steve Ellis, Town Administrator
October 17, 2020
[*Slightly revised from a memo to the Montague Energy Committee 9.30.20*]

Dear colleagues~
Last January or February (2020), when the Montague Energy Committee and Town Administrator learned about a program called C-PACE (commercial Property Assessed Clean Energy), most of us were understandably enthusiastic about bringing the benefits of this program to businesses and industries in Montague.

The program enables applicants that qualify to borrow money for energy conservation and efficiency improvements and renewable energy technologies, with the debt and the payback schedule attached to the improved property. So when a facility is retrofitted with PACE money, the obligation to repay stays with the property no matter who owns it – just like the obligation to pay property taxes, water and sewer and streetlight fees.

The law also allows taxpayer dollars from the state or federal government to subsidize favorable interest rates that may be offered to a PACE borrower.

C-PACE in Massachusetts funds 3 categories of energy retrofits, with a list of eligible measures or technologies in each category. [Appendix A of this memo describes each category in more detail.]

The first category, Energy Consumption Reduction improvements (ECRs) includes efficiency measures such as building insulation and air-sealing, and upgrades to more efficient heating equipment and lighting. Like efficiency upgrades subsidized through the Green Communities Act, these measures are fuel-blind: Any form of energy can qualify if it will be used more efficiently.

The second category covers a wide range of renewable energy systems.

The third and final category of eligible measures, Gas Line Extensions, allows C-PACE to fund extensions of gas-company distribution lines, to supply piped natural gas (methane) to commercial customers who have no gas connection. *Neither the law nor the regulations specify any limit on the length, size, or capacity of an extension pipeline*.

Building gas lines is expensive, though, and the program requires that savings from category-one Energy Consumption Reduction measures cover the cost of any gas line extension in addition to covering the cost of the ECRs. In most if not all cases, the ECRs will include high-efficiency gas-fired heating to make this equation work (or to bring about the interest in gas in the first place).

In some cases, PACE may fund manufacturing or industrial-process equipment that runs on methane, notably when combined heat & power (CHP) *aka* co-generation, is used as an ECR.

DOER guidelines for gas projects:
https://www.massdevelopment.com/assets/what-we-offer/pace/PACE-guidelines-072020.pdf
Section F. Gas Line Extensions [*begins on Adobe counter p. 26; document page #18*]

In my view, including gas infrastructure and equipment in C-PACE contradicts and undermines the purpose for which C-PACE was designed. PACE programs were invented to reduce climate damage by reducing the use of fossil fuels by consumers at all levels, with an emphasis on replacing fossil fuels with renewable energy sources whenever possible.

The beauty of the concept is that investment in conservation, efficiency, and renewables is no longer confined to property owners whose credit history, financial well-being, and risk tolerance all support making those investments. Instead, capital can be put into these improvements to the extent that operational savings will repay the loan & associated expenses over a set time frame; and the debt stays with the property should it change hands.

But including the option to finance, for example, oil-to-gas conversions or propane-to-methane conversions shoots the entire purpose of C-PACE in the foot. Renewables shouldn't have to compete with methane inside a support system designed to reduce emissions. Here's an example that is realistic for Montague: A real-estate developer is renovating a former school building that had oil heat into apartments or condos. Will the developer install heat pumps, or a gas pipeline extension + high-efficiency gas boilers?

Investment in *either* choice can be enabled by PACE, if each design includes sufficient conservation/efficiency measures and meets the financial savings-to-investment ratio (SIR) that the program requires.

I asked Julie Cowan of MassDevelopment, our contact regarding PACE, about this example in a phone conversation Sept. 29. I asked if anyone in the PACE approval chain is required or expected by the state to say: *"Go with the heat pumps."* She replied. *"No. PACE is silent on heat pumps versus gas."*

Of course, any business owner may face the same decision independent of PACE. But the purpose of PACE is to make choices possible that an owner *can't* afford on their own. And taxpayer dollars can be involved in making PACE loans possible at attractive interest rates.

The advantageous financing structure of C-PACE should not be used to expand a fossil-fuel delivery system to *any* extent; and should not be used to extend by 30 to 50 years the dependence of any property on fossil fuel.

One of the worst unintended consequences of adopting such a contradictory C-PACE law is this:

The combined greenhouse gas emissions *added* to the atmosphere from all PACE-enabled new gas customers in Montague *could outstrip* combined greenhouse gas emissions *avoided* by the Montague businesses that use the program to underwrite conservation, efficiency, and renewables.

In fact, this "reverse balance" is far more likely to occur in Montague and our neighboring Franklin County river towns than in other types of communities, due to the types and sizes of facilities that are more likely to go in each direction. The shuttered mills along the Power Canal are high on our list of redevelopment priorities. Any potential users that occupy significant amounts of space in such large structures will need a correspondingly large amount of energy.

Since these buildings have no current sources of energy against which to calculate an SIR (the savings-to-investment ratio), I asked Julie Cowan how this core C-PACE requirement can be met for vacant properties.

"In the overall redevelopment industry, PACE capital understands there are buildings that have been dormant for a long time," she said. She explained that the current cost of the fuel that was last used, or was historically used for that type of building, is applied to the square footage, current code, and intended use of the building now as a baseline for predicting the savings from a PACE-funded package of improvements. In this area, oil is often the historic fuel; and they will swap oil in if the former fuel source is no longer available (hydropower, for example).

I hope the board will consider that reviving even one old mill building by powering it with fracked methane could cancel out the emissions reductions contributed by numerous smaller buildings who used C-PACE to fund conservation and renewables retrofits.

Because the description of gas-line extensions that may be funded is open-ended as to size, length, and capacity, I wonder whether a group of property owners could join together and contribute C-PACE funding toward a distribution line – assuming each property could justify its share of the cost within the C-PACE payback requirement.

Related questions include: Could one or more businesses benefiting from C-PACE *share the cost* of a gas-line extension *with* the closest gas LDC (local distribution company – such as Berkshire Gas or Columbia). And, if this will be allowable, can the gas company then solicit other new customers to receive supply from the new extension of its infrastructure?

Julie Cowan had no information that would answer any of these questions definitively, but she explained that the ownership of gas infrastructure or the rights of way through which it passes can be complex, and are often defined contract by contract.

This reminded me that another fundamental aspect of the relationship of the electric utilities and other energy companies with our DPU is that there has historically been a nearly unlimited opportunity for the companies to bring an arrangement or practice that is new to the DPU, and win approval, as long as that activity is not explicitly prohibited by law.

In closing this part of my analysis, may I say again that I feel extremely sad and uncomfortable taking a position that unintentionally denies help to any local business. The fault is not in that business, nor in anyone in Montague town government, nor in MassDevelopment. The problem is that our legislature passed a flawed law that puts a potentially wonderful program to reduce emissions and boost businesses at cross purposes with itself.

I strongly favor submitting two amendments to the law, through our state senator and representative, perhaps with a letter explaining the untenable conditions this law creates for our Green Communities commitment and priorities, for Montague's potential future emissions profile, potentially for local health and safety (depending on where any gas-line extensions would be sited), and for the integrity of the program itself.

The preferred amendment would remove natural-gas pipeline extensions and hook-ups out the measures that can be financed by C-PACE loans. The alternative amendment would allow individual municipalities to opt not include these extensions and connectors.

Appendix A

B. Energy Improvements eligible under PACE Massachusetts include:
Source: https://www.massdevelopment.com/assets/what-we-offer/pace/PACE-guidelines-072020.pdf
(Adobe p.15; original document p.7)

• *Measures that reduce energy consumption (Energy Consumption Reduction Improvements):* energy efficiency and conservation measures including, but not limited to, lighting and lighting control upgrades, HVAC equipment upgrades, building envelope improvements, efficient electrification, and combined heat and power (CHP). Stand-alone energy storage systems as defined in this guideline are also eligible, as defined above.

• *Installation of renewable energy systems (Renewable Energy Improvements):* installation of technologies that meet requirements for RPS Class I or technologies that meet requirements as renewable thermal generating units under the APS program, including but not limited to solar photovoltaic panels, wind systems, anaerobic digestion, solar thermal, ground-source heat pumps, air-source heat pumps, and biomass, as defined above.* Energy storage systems paired with eligible renewable energy systems. Renewable Energy Improvements may qualify for PACE without meeting the consumption reduction standard for a stand-alone energy storage system, if the total project SIR is greater than one, as discussed below.

• *Gas Line Extensions:* existing gas line extensions are eligible for PACE if gas end uses will displace fuel oil, electricity or other *fossil-fuel based* energy sources. Projects including extensions of existing gas mains, gas service on the customer's property, and the meter are eligible for financing. Projects displacing renewable energy systems are not eligible.

**Renewable technologies PACE loans can fund*:

RPS Class I	APS Renewable Thermal	Other
Solar photovoltaic	Air Source Heat Pumps	Energy Storage[24]
Solar thermal electric	Ground Source Heat Pumps	
Wind energy	Solar Hot Water	
Small hydropower	Solar Hot Air	
Landfill methane and anaerobic digester gas	Eligible Biomass	
Marine or hydrokinetic energy		
Geothermal energy		
Eligible biomass fuel		

Source: https://www.massdevelopment.com/assets/what-we-offer/pace/PACE-guidelines-072020.pdf (*Adobe p.25; document p.18*)

Below please find attorney Richard Kanoff's response to C-PACE questions Ariel sent him via Katy Eiseman, Director of Massachusetts PipeLine Awareness Network (MassPLAN) and President of Pipe Line Awareness Network for the Northeast, Inc. (PLAN-NE). www.plan-ne.org

[*Montague, as an early municipal member of MassPLAN, remains a member of both.*]

Nothing in this message constitutes legal advice to the MEC or the Town of Montague.

---------- Forwarded message ---------
From: **Kanoff, Richard**
Date: Thu, Oct 1, 2020 at 5:30 PM

A couple of thoughts-have looked at Ariel's materials and did a quick review of other state programs and guidance.

1. The law is the law (unfortunately)--it allows the PACE program--restricted in many other states to end user upgrades that capture efficiency gains or encourage renewable energy solutions--to include expansion of natural gas lines (and use) for commercial purposes. Quick research re: other state programs did not uncover a similar application--more work on what other states do would be helpful. For MA, Ariel's concern seems valid, e.g., this encourages fossil fuel use.

2. It's hard to tell practically how the savings vs. cost calculation will work--gas line expansion is costly--it may not be cost effective which would minimize concerns.

3. More research on the implications of the expansion of the program to encompass pipeline expansion is warranted.

4. Would recommend that the BOS defer consideration of joining this program to allow for more research.

5. I have not looked at this as it relates to issues re: Berkshire Gas, other than to note that the more folks (PACE funds or not) reduce gas use the better.

6. Finally, PACE programs should have robust consumer protections because of the involvement of private lenders--I have not looked at that. Given that the gas expansion provision only applies to commercial properties, this point may be less important here.

Hope this is helpful. Feel free to share with Ariel but this does not constitute legal advice to the MEC or the town.

Best, Richard

Nothing in this message constitutes legal advice to the MEC or the Town of Montague.

What Montague learned about "gas overbuild strategy" from its Berkshire Gas interventions

Memo 2 of 2 in preparation for consideration of the C-PACE program for Montague

Submitted by Ariel Elan to the Selectboard & Town Administrator *October 19, 2020*

As briefly as possible, I will describe here how the business strategy Berkshire Gas took with the proposed Kinder Morgan pipeline – and has maintained since then – may have bearing on the Selectboard's consideration of Mass. C-PACE.

First, FYI, I looked into the C-PACE laws in neighboring states, as Attorney Kanoff suggested in his note (attached to my earlier email 10.18). Connecticut and Rhode Island are the only New England states I found online with C-PACE programs. Neither one includes gas line extensions or connectors. (Both do include, as Massachusetts does, equipment upgrades to increase the efficiency of any fuel.)

You may recall that the Town of Montague intervened in two Dept. of Public Utilities (DPU) proceedings in 2015 through mid-2017. We first challenged a proposed Berkshire Gas Company contract with the proposed Northeast Energy Direct (NED) pipeline; then joined the second proceeding to watchdog next steps after the NED was cancelled.

After NED was out of the picture, Berkshire continued seeking approval to add nearly as much capacity and supply to its resources as it had sought from that project . Berkshire presented only two choices as acceptable for ending its moratorium on new service in the Pioneer Valley – a combination of 1 new and 1 expanded existing pipeline, covering a total of 35 miles, or a new LNG storage tank able to hold half a billion cubic feet of liquefied natural gas.

Either of those projects would supply 5 to 10 times the additional gas that the company's own forecasts showed would be needed after 10 years of gradually adding new customers.

Montague presented testimony to the DPU from an established gas-industry consultant, demonstrating that Berkshire could end the moratorium using smaller and less-costly infrastructure upgrades and system-management techniques. These were standard gas-company measures that Berkshire had successfully used throughout its history.

A second Montague expert witness documented how market trends, advances in cold-climate heat pumps, and public policies limiting greenhouse-gas emissions would likely cut deeply into future natural-gas demand. And if Berkshire stepped up technical measures to reduce and manage demand on its system, he testified, the company might be able to end the moratorium with no infrastructure revisions at all.

The entire Mass. legislative delegation representing the moratorium towns embraced Montague's solutions. Former Sen. Stan Rosenberg and other members entered weekly discussions with Berkshire Gas representatives to try to bridge the gap. These ended several months later, with no movement on the Company's part.

In subsequent filings required by the DPU, Berkshire stated that building either of the projects that it requires to end the moratorium would cost more than the value of its entire existing infrastructure. One filing describes how the Company avidly sought public funding for its

expansion plans -- especially state economic-development aid -- through meetings with senior state officials. [The investment and capital markets that typically fund the activities of profit-making companies are not mentioned in these filings.]
[https://fileservice.eea.comacloud.net/FileService.Api/file/FileRoom/9586859, document pages 3, 4, 5]

[*My bias*: A rather cheeky plea for taxpayers to fund more use and dependence on methane, in the midst of a race against time toward net-zero – and to benefit a subsidiary of a $35-billion corporation (Avangrid) that is itself a subsidiary of a $122+ billion corporation (Iberdrola).]

A "Moratorium Update" on Berkshire's website still states that only one of the two major expansion projects it proposed to the DPU in 2016 will enable the Company to accept any new customers or expand service to existing customers, in its Eastern Division (Pioneer Valley).

It turns out the gap between Berkshire's local demand projections and what the Company insists it must build to meet them is no anomaly. This "overbuild strategy", as it has become known, shows up in virtually every proposed modification to gas-transmission and distribution structure in the Commonwealth in recent years – even changes that would have been executed as small improvements to existing equipment in past decades.

The formula is for gas LDCs (local-distribution companies) and pipeline companies to describe a project or group of intertwined projects as providing enhanced reliability, safety, or redundancy – i.e., a duplicate of the company's gas supply to an area, in case of equipment failure or an unusual spike in demand.

Any gas LDC has established methods for addressing those rare breakdowns or peaks; there could be no reliability without them. What these companies will gain by adding or expanding new pipelines, metering stations, and compressor stations – instead of relying on traditional back-up plans – is tens of thousands of decatherms of extra gas available each day. They can broker the oversupply of capacity and/or fuel on the spot market every day and hour that their own system is free of an unusual need.

Selling methane on the spot market is typically more profitable for a seller than contracted sales. Yet the cost to the buyer can still be low enough for methane-generated electricity to underbid renewable resources to power our electric grid. This is the worst possible condition to create in a system that needs to consistently increase its reliance on renewable sources.

To my knowledge, every gas-infrastructure project underway in Massachusetts has faced vigorous opposition from residents and/or town governments since inception. These most notably include the Weymouth Compressor station, which the Town of Weymouth has fought for 3 years, and now seeks to keep closed after it opened for testing and then was shut down for examination after two unplanned "blow-outs".

Closer to home, the Longmeadow Supply Strategy Project, also known as the Greater Springfield Territory Reliability Project, is a group of interrelated new & replacement pipeline, compressor-station upgrades, and a proposed new metering station affecting Longmeadow, Agawam, and Springfield, each of which has faced strong public opposition since they were announced 3 years ago.
https://expo.masslive.com/news/erry-2018/08/53231d3d023808/index.html

TGP and Columbia Gas expansion

https://www.masslive.com/news/2018/10/tennesee_gas_pipeline_files_wi.html

A Northampton-Holyoke pipeline in this Project is thought to have been cancelled at least partly due to opposition from Northampton city government, which is summarized in this coverage of a related project: https://www.masslive.com/news/2018/11/city_of_northampton_opposes_te.html

Advocacy: https://docs.google.com/forms/d/e/1FAIpQLSf-er110V-yWEAoI7WQBgB8GiALmsTzKzrkuY8wEy2rSnnKlg/viewform?vc=0&c=0&w=1&flr=0

The shared "overbuild strategy" that Berkshire Gas has in common with all of the current projects in the Commonwealth is consistent with the national gas-industry strategies covered in this article I linked in my previous email [https://www.desmogblog.com/2020/07/22/unplugged-how-gas-industry-fighting-efforts-electrify-buildings].

I think we all understand that when a provision favoring a particular industry shows up in any law or regulation, that industry likely wrote the language of that provision, and has specific and strategic plans to use that provision in real life. Otherwise, the top-of-the-line professionals who work for trade associations and corporations would not spend their time influencing a particular law or policy.

As much as I wish the Commonwealth had given us a C-PACE program that I could celebrate, and actively promote throughout our business community . . . I am reluctant to learn from experience where this provision in Massachusetts' C-PACE fits into the piped-methane industry's stated intention to increase the use and dependency on this fossil fuel to the maximum extent possible over the next 30 years.

--Additional documentation on any point available on request.

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