Fact Sheet

Fact Sheets
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SUBJECT: Killingly Energy Center with "FRAC" Gas

TALKING POINTS:

1. The Killingly Energy Center (KEC) as proposed will increase Connecticut's dependence on frac gas, while impeding the achievement of CT's carbon-free electrical energy supply by 2040.
2. Natural *aka* frac gas is no longer a bridge- or transition fuel because of the rapid increase in climate change impacts, and the rapid rate of innovation in renewable energy sources, battery storage and microgrids. You can't reasonably or sustainably transition from a fossil fuels using a fossil fuel.
3. Allowing the KEC to be built *endorses* the use of *fracking* to recover gas, which releases fugitive methane, contaminates some aquifers, and causes significant health risk to communities.
4. The alternative solution to the KEC is the partnership between communities and companies like NTE to innovate home/business solar energy generation and storage and microgrids, which fosters energy security, reduced grid demand, safety, community resilience, and a business plan for the future.

DESCRIPTION: The planned KEC will be situated on a 70-acre site in Killingly, Windham Co., CT (180-189 Lake Road), and owned by NTE CT, LLC.[1, 2] NTE is an international energy company, commercializing over 42,000 MW electric generation, and $5 billion in power sale contracts in US, Mexico, Europe, and Asia.[3] KEC will be a frac gas 650-MW electric generating facility, with a heat rate of 6,529 Btus/kWh, which equates to a 52% efficiency.[1, 4]. KEC may power up to 500,000 homes. Project cost is up to $600 million.[2] KEC will utilize a single combustion turbine, a heat recovery steam generator, steam turbine and air-cooled condensers, fueled with frac gas (see "***Fracking for Gas & Petroleum***" Factsheet), and connected to an existing 345 kV electric transmission line.[5] Frac gas will be supplied via an Enbridge gas pipeline. KEC could create 250-350+ construction jobs, and 25-30 operation jobs.[6]

NTE's JUSTIFICATION for KEC: "The proposed facility directly responds to the need for expanding the energy base in the region by constructing a cost-effective and environmentally responsible energy generation facility."[6]

WHO IS PAYING for KEC: KEC is being financed through two main pathways: (1) 50% from banks, and (2) 50% from private equity investors.[2] The bank loans are being set through the construction phase, and then refinancing will occur for the operations phase. Private equity investors hope to realize a 15% return on investment (ROI) over a 20-year period. According to Tim Eves with NTE, customer rates may increase for other reasons, but not from the financing of the project (except perhaps interest on loans?).[2]

ISO-NE and ENERGY PRICES and CAPACITY: The Independent System Operator-New England Inc. (ISO-NE) calls themselves "Guardian of the Grid", and is "working to ensure the reliable flow of competitively-priced wholesale electricity…"[7] (see "***ISO-NE***" Factsheet). ISO-NE manages the Forward Capacity Auction (FCA) where companies compete to obtain commitments and incentives to supply capacity. They do this in exchange for Market-Priced Capacity Payments, which "support the development of new resources."[7] NTE received a strong incentive to pursue KEC. Federal Energy Regulatory Commission (FERC) found the ISO-NE FCA13 filing of supplemental information to be deficient in NTE's case, suggesting NTE did not fully prove KEC's need. FERC fell into a default approval due to lack of participation.[8] NTE won a FCA13 clearing price $3.80/kW-month in the 4th auction round; well below the FCA13 opening price of $8.19/kW-month.[2, 8] NTE's and ISO-NE's assessment did not seem to adequately consider the addition of renewable capacity and innovative solutions with CT's emissions reduction goals to offset KEC. The FCA13 concluded with 1,089MW of surplus capacity above the requirement for 2022-2023. The KEC's 650MW production falls in that surplus.[7] The KEC capacity *is not needed* to keep the lights on.

FRAC GAS and EMISSIONS: The KEC plant running at 650MW capacity year round would require 19.429 billion cubic feet of gas, which yields 134 tons CO_2 per 650MWh, or 1.1 million tonnes[9] to 2.2 million tonnes[10] CO_2 annually, plus emissions of methane (CH_4), NOx, SO_2, N_2O and other gases. This is between 3%[9] to 5%[10] of Connecticut's total emissions, and 13% of emissions from electricity generation.

LIFE CYCLE REALITIES: FRAC GAS vs SOLAR & WIND: The life cycle differences of greenhouse gases (GHGs) of frac gas compared to solar photovoltaic and wind is striking: Frac gas yields 450-499 tonnes CO_2 equivalent per gigawatt hour (CO_2^e/GWh), compared to solar (85-175) and wind (26-80) during their life cycles.[11, 12] Frac gas is not a medium- or long-term energy choice if the state wants to seriously address innovation, health impacts, long-term economics, community resilience, energy security, safety, new jobs, and climate change impacts. Further, frac gas has a global warming potential 25+ times more than CO_2, and there are significant leaks in production, transport, storage and electricity production.[13] Leaks can be short-lived or prolonged, but the EPA estimated 163 million metric tons of CO_2^e in 2017 (mostly methane, and in the short term atmospheric methane is over 80x more potent as a GHG than CO_2.). This is expected to increase as the use of frac gas increases.

CONFLICTING WITH CONNECTICUT EMISSION TARGETS: KEC will emit between 1.2 and 2.2 million tons of carbon dioxide annually[9, 10, 14], and this impedes the CT Governor's Council on Climate Change (G3C) target of 45% GHG reduction by 2030.[15] Lamont's Executive Order mandates 100% c-free electricity by 2040.[16] The KEC and increased reliance on frac gas conflicts with this order.

FALSE CHOICE on REPLACING OIL or COAL PLANTS: NTE maintains the KEC plant will "enable the eventual retirement of older coal-fired power plants".[17] This is not true for New England, as there only is one such plant remaining (Merrimack Station, NH). ISO-NE and power companies have already used NG as a bridge fuel, and reports excess capacity now.[7] Now is the time to put capital investment in renewables and begin working with power companies to build the first battery storage facilities, rather than deepen dependence on frac gas.

CARBON FEE / TAX IMPACT on KEC: In the near future state and federal fees or taxes will be levied on the contained CO2 in fossil fuels. There are currently up to five times more subsidies for fossil fuels over renewable energy systems, and a fee or tax will level the playing field, and allow fair market forces to work.[18] This will increase the price of frac gas, rendering it more expensive than renewables.

TRUE QUALITY of LIFE: Quality-of-Life and Safety problems include the risk of natural gas explosions (Sept. 13, 2018 Columbia Gas explosions caused fire in 40 homes and one death in the Massachusetts towns of Lawrence, Andover, and North Andover, and other locations).[19] Quality of Life impacts to the Killingly community include air quality concerns from gas leaks at the KEC, pipeline, and related infrastructure. KEC will impact the 32-acre Dunn Preserve (Wyndham Land Trust), the Quinebaug and Shetucket Valley National Heritage Corridor and river habitats, and Bafflin Sanctuary.[10]

SOLUTIONS:

1. Halt KEC. Electricity generation must be developed with renewable systems.[18] *Example*: Sunrun (a San Francisco company) is creating a partnership between National Grid and rooftop solar where homeowners participate by solar energy generation and battery storage in their homes.[20, 21, 22] This is a microgrid-like innovative design that renders KEC unnecessary. Storage batteries on a home- / business scale are being installed in Vermont.[22, 23]
2. If a company like NTE practiced innovative partnerships with towns and residents, as well as businesses and industrial parks, buildings could host solar panels and battery storage systems.[20] This type of innovation reduces demand on the grid, increases energy storage and security, reduces large scale infrastructure costs due to microgrid development, and helps create community and business energy independence and resilience.[24]
3. A $600 million plant like KEC could alternatively fund installation on 120,000 buildings with solar and battery storage, reduce pressure on the grid, and create a new business model for NTE.

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